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ABSTRACT

At the time of the First Followup Survey of the members of the High School Class of 1972, approximately 18 months after graduation, sixty-five percent were unemployed, and eight percent were out of work. Forty-two percent were taking academic courses in a college or university. Graduates of the vocational high school curriculum were employed at higher rates than their classmates and were least likely to be taking academic courses. Twenty-nine percent of the females were homemakers, and most of those were married or formerly married. Earnings during the study period were similar for blacks and whites, but much greater for males than females. A very detailed discussion of the educational and economic status of class members including the relationship of these factors to base-year variables and to class members' plans and aspirations is presented. (BW)

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COMPARATIVE ANALYSIS OF POSTSECONDARY OCCUPATIONAL AND EDUCATIONAL OUTCOMES FOR THE HIGH SCHOOL CLASS OF 1972

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Preface

In the late Spring and early Summer of 1972 nearly 3,000,000 students graduated from high schools across the nation. Shortly before their graduation, about 18,000 of these students were selected, in accordance with a carefully designed and executed sample, to participate in the National Longitudinal Study of the High School Class of 1972, one of a series of National Longitudinal Studies of Educational Effects (LSEEs) sponsored by the Department of Health, Education, and Welfare.

During 1972 the selected students submitted themselves to a battery of tests, completed lengthy questionnaires, and academic records were collected from their schools. About 18 months later these same people were contacted a second time and a First Followup Questionnaire was completed. It is upon these two sets of data that this report is based.

The current report represents the first in-depth investigation of what has happened to the Class of 1972 since its graduation, with special emphasis on educational and vocational outcomes.

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CHAPTER 1

INTRODUCTION: THE SETTING AND THE PROBLEM

1.1 Longitudinal Studies of Educational Effects

> The U.S. Office of Education is taking the initial steps in a long-range program of Longitudinal Studies of Educational Effects (LSEE). These studies will describe the educational history of samples of individuals moving through the American educational system, and their activities and experiences subsequent to leaving school either through graduation or by termination at an earlier stage. The general goal of this program is to increase the information available on American education so that we may better understand the growth of students in our educational system and the factors associated with individual educational and career outcomes.
>
> The potential use for such information exceeds the interests of any particular group. These longitudinal studies are intended to prepare a broad data base for use by the U.S. Office of Education, other governmental agencies, the educational research community, and the educational community in general. The availability of such a data base will facilitate the investigation of current policy and research questions. It will afford governmental agencies and educational policy makers with evidence which will contribute to program planning and evaluation. It will provide material for the research community to generate theories, models, and hypotheses about the educational development of students, and the alternatives pursued by students who terminate their formal education at a level lower than they are capable of achieving.[1]

With these words, in late 1971, the U.S. Office of Education began the implementation of a large-scale study designed to track, monitor, and evaluate the progress of the High School Class of 1972 over an extended period of time. A stratified two-stage probability sample was designed, selecting schools at the first stage and students within schools at the second stage, and assuring coverage of type of school (public or nonpublic), geographic region, school size (in terms of grade 12 enrollment), proximity to institutions of higher education, percent minority enrollment, community income level, and degree of urbanization. The sample design involved 600 final strata with two schools selected from each by probabilistic methods. Within each selected school a simple random sample of 18 high school seniors was to be selected.

Instrumentation for the 1972 Base Year Survey included the following: a 107-item Student Questionnaire (student characteristics, educational and occupational attitudes, plans, and aspirations); a 69-minute Student Test Battery (verbal and nonverbal ability); a Student School Record Information Form (student academic achievement and curriculum); a School Questionnaire (school characteristics); and a Counselor Questionnaire (training, case loadings, activities of counselors). Of particular importance to the current study is that the Student Questionnaire contained measures of both plans and aspirations of students in both occupational and educational areas.

The sample design called for a total of 1,200 schools, and a within-school sample of 18 seniors from each school, making a total of 21,600 targeted students. Ultimately, 1,044 schools participated, as did 17,726 students. All but 33 students had School Record Information Forms, 92.6% completed Student Questionnaires, and 88.1% completed the Student Test Battery.[2]

Tabulated data from the Base Year Survey comprised over 2,000 tables[3] and have served as the basis of a number of reports, the principal of which, insofar as the current study is concerned, was A Vocational Reevaluation of the Base Year Survey of the High School Class of 1972,[4] which served to develop summary data characterizing students of various sex, race, and curriculum subgroups according to demographic characteristics and as regards their educational and vocational plans and aspirations.

During the Base Year Survey a number of the designated schools, and subsequently their associated students, were not included in the study, primarily due to refusals and early school closings. To reduce the bias which might be caused by such omissions, the National Center of Education Statistics (NCES) initiated a "resurvey" of the missing schools with considerable effectiveness. Following the resurvey the First Followup activity was undertaken, gathering data from the Class of 1972 through the period October 1973-April 1974. The combined Base Year and First Followup activities gave rise to 23,451 students, 16,683 having Base Year Student Questionnaires and 21,350 having First Followup Questionnaires.[5] The combined dataset resulting from both the Base Year Survey and the First Followup Survey serves as the basis of the current report.

Instrumentation for the First Followup Survey consisted of two forms (Form A and Form B) of the same questionnaire, with Form B differing from Form A by containing additional items which gathered retrospective information from respondents who had not been reached during the Base Year. The two forms are otherwise indistinguishable, and contain items regarding the respondent's current (as of the time contacted, between October 1973 and April 1974) activities, and regarding the respondent's participation in educational and occupational activities. Educational plans and aspirations were gathered, as were vocational aspirations. Vocational plans, however, were not included in the FFQ measures. As of this writing, extensive tabulations of the FFQ data are available[6] but, while other studies are underway, in-depth reports are not yet available.

In the meanwhile, progress on the National Longitudinal Study of the High School Class of 1972 continues--data from the Second Followup are now available and preparations for the Third Followup are well advanced.

The current report is the end product of a project having two broad objectives: first, to effect a partial evaluation of the effectiveness of vocational education as compared to academic and general high school programs; second, to develop information useful for program planning specialists involved in vocational education. These two broad objectives may be subsumed under the following four purposes, as given by pages 6 and 7 of OE RFP 75-60.

1. To assess the relationships among student characteristics, postprogram aspirations, performances, and the vocational education experiences that the student has received in hopes of presenting a generalized paradigm of vocational students in comparison to others.
2. To develop a mechanism for assessing the educational development of vocational students, and determine those influences and circumstances related to their decisions about post-secondary education and/or occupation, as compared to academic and general students.
3. To generate student profiles of potential users of post-secondary vocational education, and
4. To assess the nature, extent, and satisfaction with employment opportunities of vocational students entering the labor market as compared with general and academic students.

The remainder of this chapter is devoted to a review of the social, political, economic, and educational events which prevailed during 1972-73, as well as some of the trends which led up to those times, in order to embed the analyses to follow within the cultural matrices which then prevailed.

1.2 The Political, Social, and Economic Setting of 1972-73

Prominent Events of 1972-73

As we later remark, there is some reason for concern regarding the uniqueness of the 1972 cohort which is the subject of this report. Should the cohort be one-of-a-kind, different from cohorts preceding and following it, the relationships and activities derived from data analysis would have little hope for general application. By and large, the results we have obtained suggest a strong similarity between the Class of 1972 and the results obtained by others for other cohorts; nevertheless, there are some differences.

In many respects, social and economic indicators suggest that a number of situations, unique in American history, developed during 1972-73, the period of the current study. Additionally, the political events of this time period contained a number of situations which were unusual, if not unique. It is instructive to review current events magazines and newspapers for the period under study, for a number of dramatic moments can be found.

The Class of 1972 graduated in an election year, but the campaigns of politicians were troubled by attempted assassinations, and by repeated embarrassments to candidates. The Watergate scandal began during 1972, and persisted with increasing intensity through 1973. Concern for environmental pollution reached international proportions.

Runaway inflation was a topic of serious domestic concern, and attempts by government to control it were not generally successful.

The U.S. made diplomatic progress by opening the door to the People's Republic of China, but the Vietnam War was still in progress, though winding down during 1972 and finally terminating, at least as far as U.S. involvement was concerned, early in 1973. Elsewhere, foreign military conflicts continued, and there were a number of acts of sabotage, terrorism, and airplane hijacking. It was during this period that a small group of American Indians took over Wounded Knee, South Dakota, that the Vice President of the United States resigned, that Henry Kissinger became Secretary of State, and that the fuel crisis erupted.

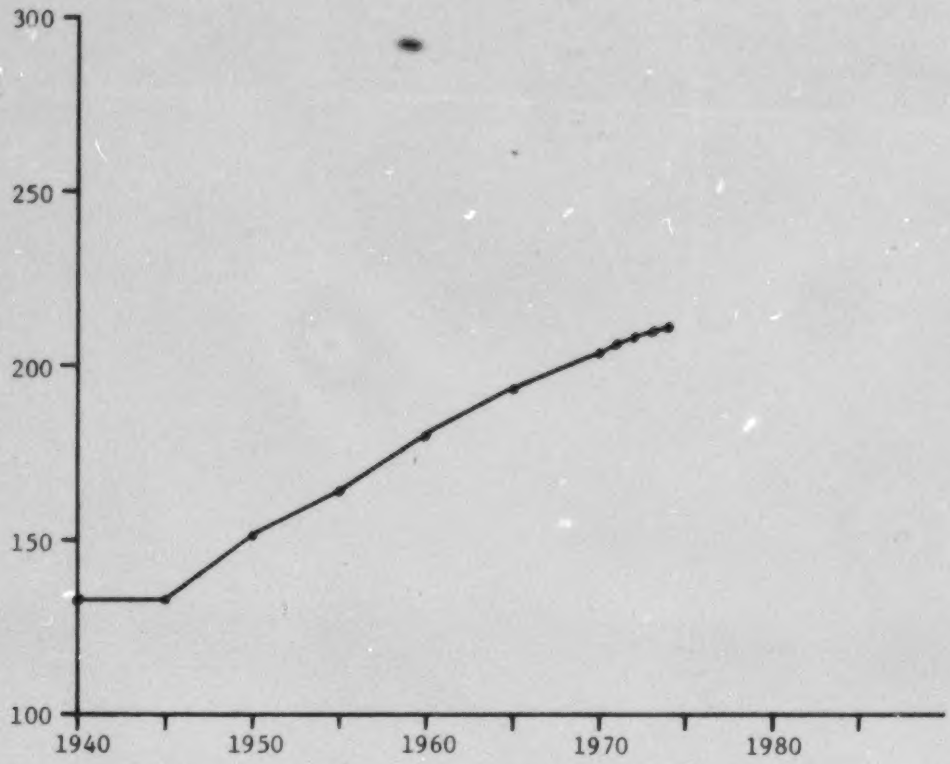
In sum, the period can be seen as having been marked by unusual political turbulence, social activism, popular unrest, distrust of government, and personal as well as national concern for the well-being of the citizenry. These factors may have affected the outlook and decisions of the Class of 1972 in ways that are difficult to ascertain.

Social Trends

At the time the Class of 1972 graduated the population of the United States was about 208,234,000,[7] representing a 16% increase in population size over the scholastic lifespan of the Class.[8] With the population increasing an average of 1,800,000 persons per year in 1972 (Figure 1.1), it was nonetheless increasing at a decreasing rate.

Figure 1.1

Population of the United States, 1940-1974
(millions)



Source: See Note 9.

Population density, measured by number of persons per square mile of land area, was increasing: from 44.2 persons/mi^2 in 1940, to 57.5 in 1970, to 59.6 in 1974.[10]

Over the previous 30 years, the increasing population density has been reflected in increased urbanization--not urbanization associated with the greatest metropolitan complexes, but with growth in small-to-medium sized cities (Table 1.1), accompanied by marked declines in open rural population and slight declines in the proportional population of the largest cities.

Table 1.1

Percent Distribution of Population by Urbanicity

	1940	1950	1960	1970
Urban places 1,000,000 or more	12%	12%	10%	9%
500,000 - 999,999	5	6	6	6
250,000 - 499,999	6	5	6	5
100,000 - 249,9999	6	6	6	7
50,000 - 99,999	6	6	8	8
25,000 - 49,999	6	6	8	9
10,000 - 24,999	8	8	10	11
5,000 - 9,999	5	5	5	6
2,500 - 4,999	4	4	4	4
Under 2,500	-	0	0	0
Other urban territory	-	5	5	7
Rural places 1,000 - 2,499	4	4	4	3
Under 1,000	3	3	2	2
Other rural territory	36	29	24	21

Source: See Note 11.

In 1970, 20% of the U.S. population was in the 14-24 age group, a figure which rose slightly to 20.5% by 1973 and reached 20.7% by 1974.[12] In the 18-24 age group of primary interest to this study, it was much more likely for females than for males of a given age to move from "single" status into that of "married, divorced, or widowed." While women tended to marry at earlier ages than men, the tendency was not without time-specific effects. As can be seen in Table 1.2, the tendency for first marriages to occur at increasingly early ages was reversed somewhere between 1960 and 1970. This can most dramatically be seen for females in the 18- to 19-year-old age group who increased by 9% the number of people still single. For the U.S. population as a whole,

Table 1.2

Percentage of Population Between 18-19 and 20-24 Years of Age Who Are Single, by Sex

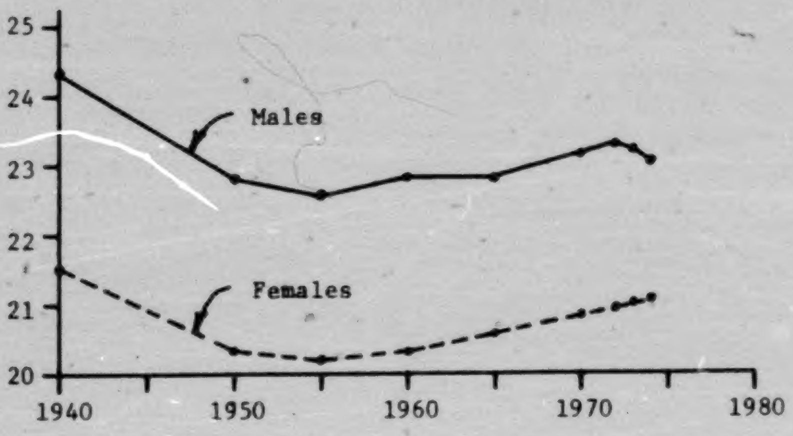
	Males		Females	
Year	18-19	20-24	18-19	20-24
1974	92%	57%	75%	40%
1970	91	56	77	36
1960	91	53	68	28
1950	93	59	69	32
1940	96	72	78	47

Source: See Note 13.

the median age at first marriage showed a low point in 1955, but drifted toward higher ages thereafter (Figure 1.2). The increases in age at

Figure 1.2

Median Age at First Marriage, by Sex

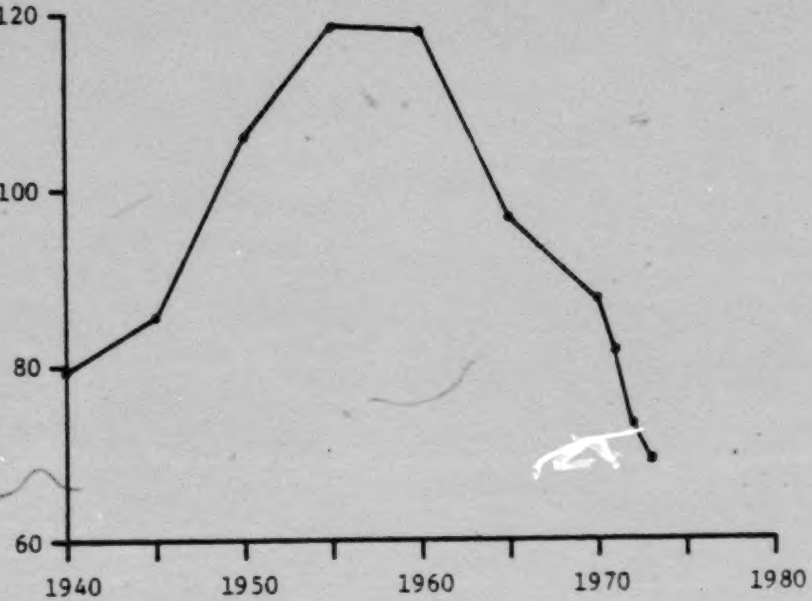


Source: See Note 14.

first marriage were accompanied by nationwide decreases in the total birthrate. While the birthrate was depressed during 1940-1945 by World War II, it dramatically increased thereafter, reaching a peak in 1955 of 118.5 births per 1,000 women aged 15-44. Holding nearly steady for about five years, the birthrate has subsequently undergone a strong and steady decline, attaining a low of 69.2 births per thousand women aged 15-44 in 1973 (Figure 1.3). An appreciable component of the total birthrate was comprised of illegitimate births which reached a peak of 26.4 births per 1,000 unmarried females. As can be seen in Figure 1.4 the illegitimate birthrate has declined slightly since that time, dropping

Figure 1.3

Total Birth Rate for
Women 15-44 Years of Age

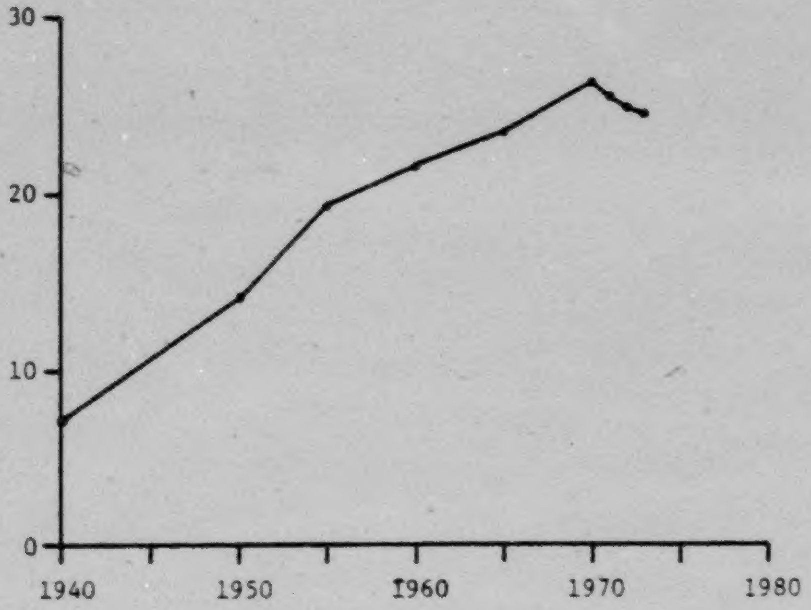


Source: See Note 15.

to 24.9 births per thousand unmarried women in 1972, a figure which represents 12.4% of all registered births.[16]

Figure 1.4

Illegitimate Birthrate

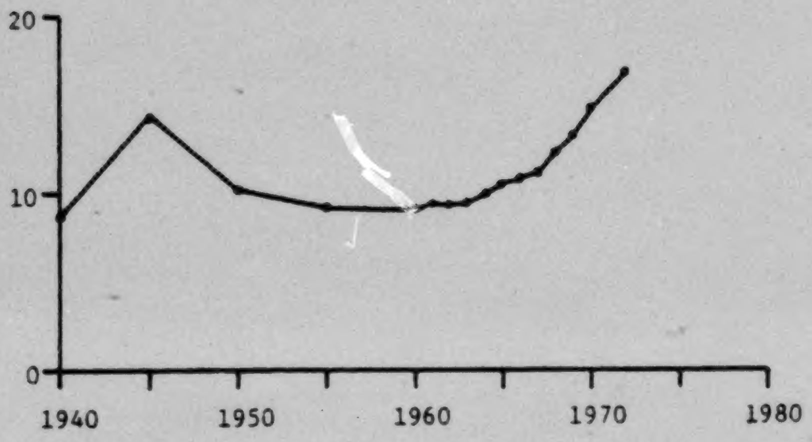


Source: See Note 17.

The divorce rate has shown steady growth since 1940, beginning with an extensive rise in the divorce rate following World War II, abating somewhat in the years following the Korean War, but then rising fairly steadily thereafter to attain an all-time high in 1972 (Figure 1.5) of 16.9 divorces per 1,000 married females,[18] indicating that the Class of 1972 contained more people from single-parent households than at any earlier time in American history.

Figure 1.5

Divorce Rate



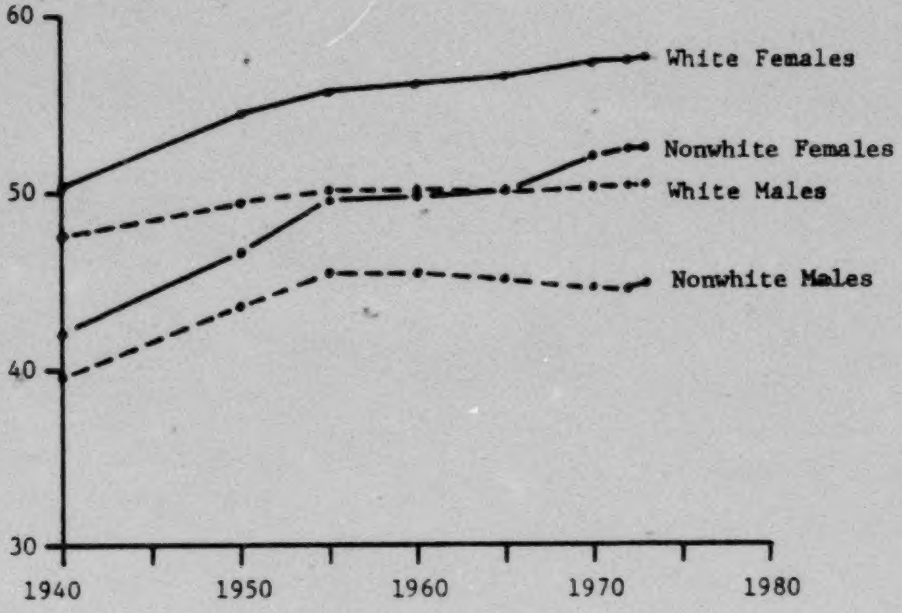
Source: See Note 19.

In the 30-year period 1940-1970 there was a minor change in the ethnic composition of the U.S. population; whites, in 1940, represented 90% of the population, which declined to 88% in 1965 with no subsequent change through 1970. Blacks comprised 11 of the remaining 12%, with other racial/ethnic groups representing the balance.[20] One way in which the dominant racial/ethnic groups differ is in life expectancy and, the life expectancy of nonwhites is at a level roughly 30 years behind that of whites of the same sex.

There is an appreciable sex difference in life expectancy at age 20, as can be seen in Figure 1.6, with white males lagging 7.2 years behind white females in 1973, and nonwhite males lagging 7.7 years behind nonwhite females; nonetheless, with a life expectancy of 44.9 years for nonwhite males (the lowest of the four groups), and one of 57.4 years for

Figure 1.6

Expectation of Life at Age 20
(by Race and Sex)



Source: See Note 21.

white females (the highest of the four groups), the Class of 1972 probably can look forward to longer life spans than any earlier class.

Economic Trends

Economic conditions throughout the United States were reasonably good in 1972 and 1973, especially when compared with both the two previous years and the two succeeding years. In terms of the Gross National Product (GNP), the 1972 growth rate (in 1958 dollars) was 6.2% and that for 1973 was 5.9%, representing a peak between the recessions of 1970 and 1974-75.

Table 1.3

Economic Growth of the United States 1965-1975

Year	Current Dollars (billions)	Constant 1958 Dollars (billions)	Growth Rate
	Gross National Product		
1965	$ 684.9	$ 617.8	6.3%
1966	749.9	658.1	6.5
1967	793.9	675.2	2.6
1968	864.2	706.6	4.7
1969	930.3	725.6	2.7
1970	977.1	722.5	-0.3
1971	1,054.9	746.3	3.2
1972	1,158.0	792.5	6.2
1973	1,294.9	839.2	5.9
1974	1,397.4	821.1	-2.1

Source: See Note 22.

Erosion of the buying power of the dollar became apparent near the end of 1972 as inflation markedly increased. Table 1.4 presents the consumer price index for a variety of areas of expenditure, from which it can be observed that, during the four high school years 1968-1972, prices had generally increased by 20%. The highest increases in these areas were in medical expenses (up 25%) and costs of housing (up 24%).

In the 18 months between the Base Year Survey and the First Followup Survey prices increased an average of 12%, but costs of food increased about 25%.[23] This represents an appreciable price increase, but considering the still-increasing inflation attendant to the years 1972-73, a more dramatic view can be obtained by comparing the rise in prices between 1968, when the Class of 1972 entered high school, and 1974, when the First Followup Survey was concluded. During this period the overall (urban oriented) Consumer Price Index increased by 42%. The cost of food, however, increased 57%, that of housing, by 45%, and that of medical care, by 42%. Costs of education, undoubtedly considered by most as secondary to the costs of food, clothing, shelter, and medical care, rose 28% (as measured by the cost of reading material), representing price increases which must be met after the "necessaries" have been cared for.

Table 1.4

Consumer Price Indices, 1945-1975
(1967 = 100)

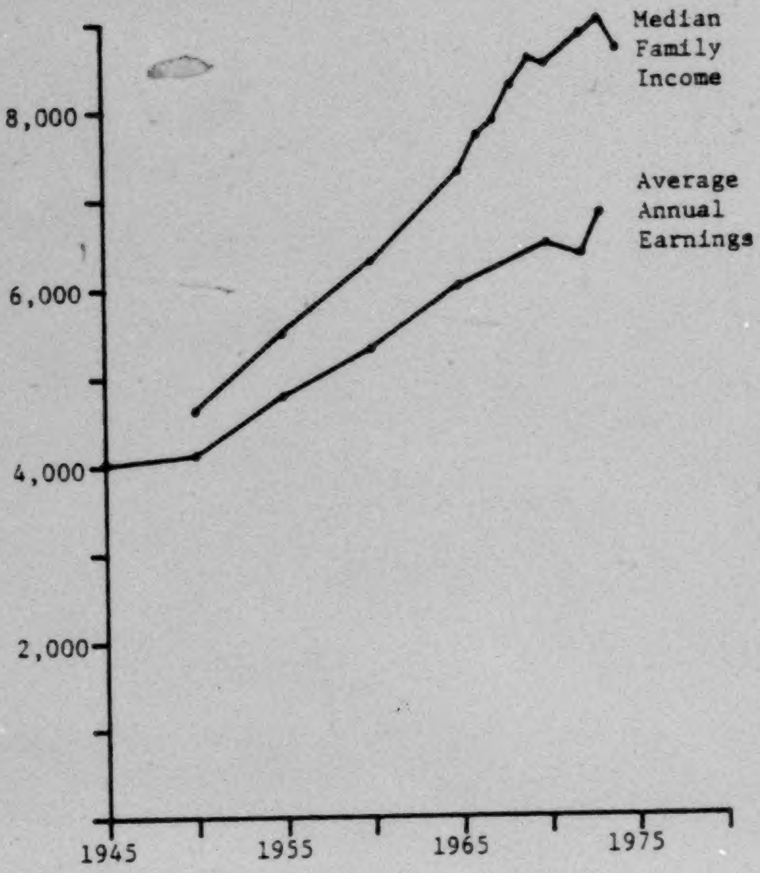
Year	All Items	Food	Housing	Apparel	Transportation	Medical	Reading/ Recreation
1945	53.9	NA	59.1	61.5	47.8	42.1	62.4
1950	72.1	74.5	72.8	79.0	68.2	53.7	74.4
1955	80.2	84.1	82.3	84.1	77.4	64.8	76.7
1960	88.7	89.6	90.2	89.6	89.6	79.1	87.3
1965	94.5	95.5	94.9	93.7	95.9	89.5	95.9
1966	97.2	100.3	97.2	96.1	97.2	93.4	97.5
1968	104.2	103.2	104.2	105.4	103.2	106.1	104.7
1970	116.3	113.7	118.9	116.1	112.7	120.6	113.4
1971	121.3	116.4	124.3	119.8	118.6	128.4	119.3
1972	125.3	121.6	129.2	122.3	119.9	132.5	122.8
1973	133.1	141.4	135.0	126.8	123.8	137.7	125.9
1974	147.7	162.4	150.6	136.2	137.7	150.5	133.8
1975	159.3	171.6	165.3	141.8	147.4	166.8	143.8

Source: See Note 24.

Rising costs undoubtedly were partially offset by increased wages of workers (Figure 1.7), but available data do not clearly indicate other factors which also may have tended to compensate prices. Median family income increased appreciably from 1968 to 1973 (9% in 1967 dollars), but

Figure 1.7

Median Family Income and Average Annual Earnings of Full-Time Workers (1967 Dollars)



Source: See Note 25.

underwent a 4% decline between 1973 and 1974. Together with Table 1.5, the data suggest that the years 1972 and 1973 were characterized by the ending of mild recovery from the 1970 recession and the beginning of the more severe 1974-75 recession. This tempers the interpretation of National Longitudinal Study data since it suggests that the behavior of earlier and later cohorts may be differentially affected by their unique economic circumstances.

Table 1.5

Labor Force and Unemployment in the United States: 1965-1975

	Civilian Labor Force		Unemployed Person	
Year	Number (thousands)	Participation Rate (% of civilian noninstitutional population)	Number (thousands)	Unemployment Rate
1965	74,455	58.9%	3,366	4.5%
1966	75,770	59.2	2,875	3.8
1967	77,347	59.6	2,975	3.8
1968	78,737	59.6	2,817	3.6
1969	80,733	60.1	2,831	3.5
1970	82,715	60.4	4,088	4.9
1971	84,113	60.2	4,993	5.9
1972	86,542	60.4	4,840	5.6
1973	88,714	60.8	4,304	4.9
1974	91,011	61.2	5,076	5.6

Source: See Note 26.

Additional information regarding the manner in which workers withstood the recent recession and inflation periods is presented in Table 1.6, which displays data on average weekly earnings together with data on work hours and hourly wages. Although the current nominal average weekly earnings of production workers in private sectors have increased continuously in recent years, their constant (1967) dollar earnings actually decreased in 1970 and 1974 due to reductions in work hours and wage rates. Because of this general economic development, new entrants to the labor market who were first employed during 1972 or 1973 (as is likely for the

Table 1.6

Work Hours and Earnings of Production or Nonsupervisory Workers on Private Payroll

		Average Hourly Earnings		Average Weekly Earnings	
Year	Average Weekly Hours	Current Dollars	1967 Constant Dollars	Current Dollars	1967 Constant Dollars
1965	38.8	$2.45	$2.59	$95.06	$100.59
1966	38.6	2.56	2.63	98.82	101.67
1967	38.0	2.68	2.68	101.84	101.84
1968	37.8	2.85	2.74	107.73	103.39
1969	37.7	3.04	2.77	114.61	104.38
1970	37.1	3.22	2.77	119.46	102.72
1971	37.0	3.44	2.84	127.28	104.93
1972	37.1	3.67	2.93	136.16	108.67
1973	37.1	3.92	2.95	145.43	109.26
1974	36.6	4.22	2.86	154.45	104.57

Source: See Note 27.

Class of 1972) might not expect to receive pay raises comparable to those enjoyed by earlier cohorts who started their working careers during more prosperous years. How the less experienced workers are affected by recession relative to the more experienced workers, in terms of employment or unemployment rates, work hours, and wage rates is not fully understood. It will therefore be difficult to estimate or predict the earnings-age profile of any given cohort so long as economic conditions fluctuate significantly.

Variations in labor force participation rates[28] and unemployment rates[29] of persons aged 18 to 19 years, for white and nonwhite workers, are shown in Table 1.7. In general, labor force participation rates were highest for white males and lowest for nonwhite females. Related is the fact that, for this age group, the unemployment rates were lowest for

Table 1.7

Labor Force Participation and Unemployment Rates of Young Workers (18 to 19 Years) by Race and Sex

	Civilian Labor Force Participation Rate		Unemployment Rate	
	White	Black and Other	White	Black and Other
Male				
1965	65.8%	66.7%	11.4%	20.2%
1966	65.4	63.7	8.9	20.5
1967	66.1	62.7	9.0	20.1
1968	65.7	63.3	8.2	19.0
1969	66.3	63.2	7.9	19.0
1970	67.4	61.8	12.0	23.1
1971	67.8	58.9	13.5	26.0
1972	71.1	60.1	12.4	26.2
1973	72.3	61.4	10.0	22.1
1974	73.6	62.4	11.5	26.6
Female				
1965	50.6%	40.0%	13.4%	27.8%
1966	53.1	44.0	10.7	29.2
1967	52.7	48.7	10.6	28.3
1968	53.3	46.9	11.0	26.2
1969	54.6	45.4	10.0	25.7
1970	55.0	44.7	11.9	32.9
1971	55.0	41.4	14.1	33.7
1972	57.4	43.9	12.3	38.7
1973	58.9	45.1	10.9	33.3
1974	60.4	44.6	13.0	33.7

Source: See Note 30.

white males and highest for nonwhite females. In recent years, at least since 1967, the labor force participation rates for whites of both sexes have increased steadily, while those of nonwhites have shown appreciable fluctuation. The years 1972 and 1973 can probably be considered good years by the white workers of the Class of 1972, even though conditions were not as bright as they had been during the late 1960s.

In contrast, the employment situation deteriorated earlier for non-white youth than for young whites. For a young black, 1973 presented serious unemployment problems--nearly one-fourth of the nonwhite males and fully one-third of the nonwhite females were unemployed that year.

Labor force participation and employment rates differ, as we have seen, according to the subgroup of the population of interest. The growing volume of females in the labor force is one such subgroup. Table 1.8 displays the female labor force as a percentage of the female population for selected years since 1940. The greatest involvement can be seen to have come from single females, and in concert with Table 1.2 (which suggests that the bulk of unmarried females is to be found in younger age groups), we can anticipate an appreciable labor force involvement on the part of females from the Class of 1972. Table 1.9

Table 1.8

Female Labor Force as a Percent of Female Population

Year	Total	Single	Married	Widowed/Divorced
1940	27.4	48.1	16.7	32.0
1945	NA	NA	NA	NA
1950	31.4	50.5	24.8	36.0
1955	33.5	46.4	29.4	36.0
1960	34.8	44.1	31.7	37.1
1965	36.7	40.5	35.7	35.7
1970	42.6	53.0	41.4	36.2
1971	42.5	52.7	41.4	35.7
1972	43.6	54.9	42.1	37.2
1973	44.1	55.8	42.8	36.7
1974	45.2	57.2	43.8	37.8
1975	45.9	56.7	45.0	37.8

Source: See Note 31.

illustrates labor force participation according to marital and family characteristics, and it can be seen that

> Among women, divorcees had the highest labor force rate (70%) in March 1972 . . . . Two factors were of importance. First, a much smaller proportion of divorced than of married women had pre-school children to care for. However, even with pre-school children, the rate for divorcees (62%) was about double the corresponding rate for wives. . .[32]

The presence of children has frequently been found a barrier to female

Table 1.9

Employment Status of Persons 16 Years Old and Over, by Marital Status, Sex, and Race, March 1972

[Numbers in thousands]

Marital status, sex, and race	Total noninstitutional population	Labor force					Not in labor force
		Total ¹		Employed	Unemployed		
		Number	Percent of population		Number	Percent of labor force	
ALL PERSONS							
Men	68,272	53,669	78.6	49,402	3,076	5.7	14,503
Married, wife present	46,400	39,654	85.5	37,311	1,326	3.3	6,746
Married, wife absent	1,684	1,307	77.6	1,170	125	9.6	377
Widowed	1,834	598	32.6	570	27	4.5	1,236
Divorced	1,781	1,417	79.6	1,283	122	8.6	364
Single	16,573	10,693	64.5	9,068	1,476	13.8	5,880
Women	75,506	32,939	43.6	30,795	2,144	6.5	42,567
Married, husband present	46,400	19,249	41.5	18,217	1,032	5.4	27,151
Married, husband absent	2,840	1,500	52.8	1,328	172	11.5	1,340
Widowed	9,601	2,570	26.8	2,488	82	3.2	7,031
Divorced	3,055	2,143	70.1	2,022	121	5.6	912
Single	13,610	7,477	54.9	6,740	737	9.9	6,133
NEGRO AND OTHER RACES							
Men	7,261	5,312	73.2	4,727	504	9.5	1,949
Married, wife present	3,825	3,261	85.3	3,033	156	4.8	564
Married, wife absent	508	367	72.2	311	56	15.3	141
Widowed	322	121	37.6	112	9	7.4	201
Divorced	215	165	76.7	134	31	18.8	50
Single	2,391	1,398	58.5	1,137	252	18.0	993
Women	8,675	4,176	48.1	3,709	467	11.2	4,499
Married, husband present	3,833	1,991	51.9	1,830	161	8.1	1,842
Married, husband absent	1,056	538	50.9	458	80	14.9	518
Widowed	1,222	412	33.7	394	18	4.4	810
Divorced	479	315	65.8	299	16	5.1	164
Single	2,085	920	44.1	728	192	20.9	1,165

[1] The male labor force includes members of the Armed Forces living off post or with their families on post, not shown separately.

NOTE: Figures for periods before March 1972 are not strictly comparable with current data. The March 1972 data reflect the introduction of 1970 Census data into the estimation procedures. For an explanation of the changes due to the new Census data and an indication of differences, see "Revisions in the Current Population Survey" in the February 1972 issue of **Employment and Earnings**. In addition, beginning with March 1972, the data exclude persons in institutions.

Source: See Note 33.

labor force participation, as Howard Hayghe indicates:

> The participation rate for mothers of toddlers (27%) registered a strong over-the-year [1971-1972] increase. Nevertheless, young children continued to be a major limiting influence on their mothers' labor force participation. For example, in 1972, 30% of the mothers with children under 6 years old were in the labor force compared with 50% with children 6 to 17 years old.[34]

Especially in the cases of married women and women with children we may expect that a component of labor force participation is due to family financial needs. While there are other reasons for women to work, such as self-fulfillment in the business world, the number of families with two or more workers has steadily increased, accounting for nearly 55% of all families (headed by married men in the labor force) in 1972. Ten years earlier the figure was only 45%. Among blacks the incidence of multiworker families was about 9% higher than among whites.[35]

Enrollment in postsecondary education also affects the decision to work. Table 1.10 shows the enrollment rates of 18- and 19-year-olds at all levels of education during recent years; additionally, it displays the corresponding labor force participation rates for enrolled and not-enrolled workers. As the table indicates, the enrollment rates fluctuated appreciably, although the numbers of enrollees seemed relatively stable. Enrollment levels of young males and females reached a peak in 1971 and declined gradually thereafter. However, Anne M. Young noted that, "[o]f the 3 million persons who were graduated from high school in 1972, only 49%--the lowest proportion in 5 years--went on to

Table 1.10

Labor Force Participation and Unemployment Rates of Young Workers (18 to 19 Years) by School Enrollment and Sex

	School Enrollment		Labor Force Participation		Unemployment Rate	
Year	Number (thousands)	Percent of Population	Enrolled	Not Enrolled	Enrolled	Not Enrolled
Male						
1965	1,689	55.6%	36.2%	91.2%	12.3%	10.4%
1966	1,841	57.8	37.5	88.6	8.1	8.4
1967	1,636	56.3	40.1	87.9	11.3	10.7
1968	1,891	60.4	42.9	87.8	9.1	9.5
1969	1,886	59.4	43.5	88.2	10.0	8.9
1970	1,822	54.4	41.2	86.7	15.3	14.1
1971	1,939	55.4	43.1	88.6	12.0	14.6
1972	1,856	51.1	45.4	89.7	11.4	11.9
1973	1,783	47.7	45.5	90.0	11.2	9.9
Female						
1965	1,241	37.7%	29.0%	63.3%	9.4%	13.7%
1966	1,335	37.7	33.5	62.9	9.6	12.6
1967	1,390	40.3	31.2	63.6	11.5	16.1
1968	1,424	41.2	31.8	62.9	10.8	12.9
1969	1,465	41.8	36.7	66.0	13.2	11.0
1970	1,502	41.6	37.7	63.7	13.8	16.4
1971	1,617	43.4	37.0	61.2	13.5	16.7
1972	1,600	41.8	37.0	65.5	14.7	15.2
1973	1,498	38.1	38.1	66.4	10.5	13.8

Source: See Note 36.

college, and relatively more graduates went to work."[37] During the period of recovery from the 1970 recession, enrollment rates for both males and females were relatively low.

There were commensurately higher rates of labor force participation during these same years. Excepting only a small decline in 1970, the labor force participation rates of enrolled young males have climbed steadily from 36.2% in 1965 to 45.5% in 1973; and, apart from a perturbation in

1966 for young females, their labor force participation rates have also increased, from 29.0% in 1965 to 38.1% in 1973. For young persons not enrolled in school, labor force participation rates have been relatively stable, though there has been some increase in the participation rates of young women.

For young men, unemployment rates have been similar, whether enrolled in school or not; for young enrolled women, however, the unemployment rate has been somewhat lower than that of women not enrolled—perhaps partially due to the fact that fewer enrolled women in these ages are in the labor force.

Tables 1.11 and 1.12 present employment data for nonenrolled high school graduates by sex and race respectively. They suggest that the proportion of high school graduates not enrolled in colleges in October of the year of graduation has been decreasing through 1968. In 1969, however, there was an appreciable decrease in the number of high school graduates going immediately on to college, a phenomenon most readily observed for nonwhites. It is possible that increasing layoffs and unemployment rates of white-collar workers during this interval has resulted in lessened attractiveness of higher education.[38] Facing different economic situations than the Class of 1969, later classes have behaved somewhat differently.

> The proportion of high school graduates enrolling in college soon after graduation has dropped sharply since the peak of 55% in 1968. . . . The decline has been concentrated among men; their proportion going on to college in the year in which they graduate from high school fell sharply between 1968 and 1972, from 63 to 53%. Among women going on to college, the proportion did not change

Table 1.11

Employment Status of High School Graduates Not Enrolled in Colleges by Sex

Year	Percent of High School Graduates Not Enrolled in October of the Year of Graduation		Labor Force Participation Rate		Unemployment Rate	
	Male	Female	Male	Female	Male	Female
1965	43%	55%	91.0%	75.8%	7.4%	16.6%
1966	41	57	87.3	68.4	8.7	18.5
1967	42	53	86.6	73.6	9.5	21.4
1968	37	51	88.1	71.6	10.2	16.0
1969	40	53	90.0	71.6	7.6	14.7
1970	45	51	87.4	68.8	12.9	23.6
1971	42	50	90.0	69.9	14.0	20.5
1972	47	54	91.2	75.0	12.3	17.1
1973			90.2	72.8	9.4	15.2

Source: See Note 39.

Table 1.12

Employment Status of High School Graduates Not Enrolled in Colleges by Race

Year	Percent of High School Graduates Not Enrolled in October of the Year of Graduation		Labor Force Participation Rate		Unemployment Rate	
	White	Nonwhite	White	Nonwhite	White	Nonwhite
1965	48%	57%	82.4%	78.8%	10.8%	26.9%
1966	48	68	77.0	65.0	12.9	NA
1967	47	58	79.6	72.7	14.0	33.0
1968	43	54	77.4	79.1	11.7	24.0
1969	45	63	80.2	72.6	8.5	31.2
1970	48	52	78.3	68.6	16.3	34.3
1971	46	53	79.3	73.3	15.1	35.5
1972	51	52	83.1	76.4	12.2	34.5
1973			82.4	69.4	10.1	28.3

Source: See Note 40.

> significantly over this period. Despite the decrease in enrollment rates, the actual number going on to college--about 1.5 million--has changed little over these 4 years because population increases compensated for the drop in the rate.[41]

While nonenrollment was more typical of nonwhites in 1969, the situation was reversed in 1972.

> The decrease in college enrollment has been entirely among white graduates, whose rate fell from 57% in 1968 to 49% in October 1972, a level about equal to that of 10 years earlier. On the other hand, the proportions of Negro graduates of 1972 who went on to college (48%) was about the same as in 1968 but substantially higher than that 10 years earlier (34%). As a result of these converging trends, there was no significant difference in the proportions of white and Negro graduates of 1972 enrolled in college in October.[42]

Since 1969 the proportion of high school graduates not enrolled in colleges in the year of graduation for all groups (males, females, whites, and nonwhites) has remained at relatively high levels, compared with earlier records. In 1972 and 1973 the labor force participation rates of all groups were relatively high, especially in 1972. In October of that year more than 90% of 1972's nonenrolled men were in the labor force, as were 75% of the women.[43]

Reductions of labor force participation rates in 1973 from their earlier 1972 levels were especially significant for females and nonwhites whose unemployment rates were generally higher than those of other groups, perhaps representing some "discouragement effect." If so, decreases in unemployment rates for these subgroups would be more apparent than real. Tables 1.13-1.15 provide additional information related to these topics.

Table 1.13

(College Enrollment and Labor Force Status of 1972 High School Graduates, by Sex, Color, and Marital Status of Women: United States, October 1972)

[Numbers in thousands]

Item	Civilian noninstitutional population		Civilian labor force					Not in labor force
	Number	Percent	Number	As percent of population	Employed	Unemployed		
						Number	As percent of civilian labor force	
1	2	3	4	5	6	7	8	9
Both sexes								
Total	2,961	100.0	1,788	60.4	1,543	245	13.7	1,173
White	2,614	88.3	1,603	61.3	1,418	185	11.5	1,011
Negro and other races	347	11.7	185	53.3	125	60	32.4	162
Enrolled in college	1,457	49.2	551	37.8	488	63	11.4	906
Full-time	1,366	46.1	477	34.9	416	61	12.8	889
Part-time	91	3.1	74	81.3	72	2	(1)	17
Not enrolled in college	1,504	50.8	1,237	82.2	1,055	182	14.7	267
Men								
Total	1,420	100.0	921	64.9	809	112	12.2	499
Enrolled in college	749	52.7	309	41.3	272	37	12.0	440
Not enrolled in college	671	47.3	612	91.2	537	75	12.3	59
Women								
Total	1,541	100.0	867	56.3	734	133	15.3	674
Enrolled in college	708	45.9	242	34.2	216	26	10.7	466
Not enrolled in college	833	54.1	625	75.0	518	107	17.1	208
Single	675	43.8	536	79.4	449	87	16.2	139
Married and other marital status[2]	158	10.3	89	56.3	69	20	22.5	69

[1] Percent not shown where base is less than 75,000.

[2] Includes widowed, divorced, and separated women.

NOTE.—Data are for the civilian noninstitutional population 16 to 24 years of age. Because of rounding, detail may not add to totals.

Source: See Note 44.

Table 1.14

Employment Status of 1972 High School Graduates not Enrolled in College and of 1971-72 School Dropouts, by Sex, Color, and Marital Status of Women: United States, October 1972

[Numbers in thousands]

Item	Civilian noninstitutional population		Civilian labor force					Not in labor force	
	Number	Percent	Number	As percent of population	Employed	Unemployed		Total	In special schools
						Number	As percent of civilian labor force		
1	2	3	4	5	6	7	8	9	10
1972 high school graduates not enrolled in college									
Total	1,504	100.0	1,237	82.2	1,055	182	14.7	267	87
Men	671	44.6	612	91.2	537	75	12.3	59	17
Women	833	55.4	625	75.0	518	107	17.1	208	70
Single	675	44.9	536	79.4	449	87	16.2	139	(1)
Married and other marital status[2]	158	10.5	89	56.3	69	20	22.5	69	(1)
White	1,322	87.9	1,098	83.1	964	134	12.2	224	76
Negro and other races	182	12.1	139	76.4	91	48	34.5	43	11
1971–72 school dropouts[3]									
Total[4]	730	100.0	457	62.6	336	121	26.5	273	32
Men	371	50.8	305	82.2	234	71	23.3	66	14
Women	359	49.2	152	42.3	102	50	32.9	207	18
Single	202	27.7	111	55.0	75	36	32.4	91	17
Married and other marital status[2]	157	21.5	41	26.1	27	14	(5)	116	....
White	573	78.5	355	62.0	271	84	23.7	218	18
Negro and other races	157	21.5	102	65.0	65	37	36.3	55	11

[1] Data not available.

[2] Includes widowed, divorced, and separated women.

[3] Persons who dropped out of school between October 1971 and October 1972.

[4] In addition, 112,000 persons 14 and 15 years old dropped out of school.

[5] Percent not shown where base is less than 75,000.

NOTE.–Data are for the civilian noninstitutional population 16 to 24 years of age.

Source: See Note 45.

Table 1.15

Major Occupation Groups of Employed High School Graduates not Enrolled in College, by Year of High School Graduation, and of School Dropouts, by Year Last Attended School, by Sex: United States, October 1972

[Percentage distribution of persons 16 to 24 years of age]

Major occupation group and sex	Graduates of–			Dropouts last attended school–		
	1970	1971	1972	1970	1971	1972
1	2	3	4	5	6	7
Men						
All occupation groups: Number (thousands)	891	568	537	210	204	114
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Professional, technical, and kindred workers	2.8	2.6	1.3	2.4		
Managers and administrators, except farm	3.3	4.1	1.7	1.9	2.0	.9
Clerical and kindred workers	7.8	7.1	7.1	3.8	3.4	2.7
Sales workers	4.6	3.7	4.1	5.2	1.5	4.5
Craftsmen, foremen, and kindred workers	26.7	18.3	16.0	15.6	19.2	18.8
Operatives and kindred workers	27.1	37.6	33.1	34.6	27.1	35.8
Laborers, except farm and mine	16.2	16.0	23.3	22.3	29.6	21.4
Private household workers						.9
Service workers, except private household	6.2	7.4	7.3	6.2	11.3	9.8
Farmers and farm managers	.9		.6			
Farm laborers and foremen	4.3	3.2	5.6	8.1	5.9	5.4
Women						
All occupation groups: Number (thousands)	683	558	518	97	79	64
Percent	100.0	100.0	100.0	100.0	100.0	(1)
Professional, technical, and kindred workers	5.0	3.2	1.2	1.1		
Managers and administrators, except farm	1.8	1.3	.6	1.1	1.3	
Clerical and kindred workers	57.2	53.0	45.4	20.0	10.3	
Sales workers	7.2	6.6	10.0	8.4	1.3	
Craftsmen, foremen, and kindred workers	.6	1.6				
Operatives and kindred workers	10.2	14.0	14.9	31.6	29.5	
Laborers, except farm and mine	1.0	2.0	.8	1.1		
Private household workers	2.8	.2	4.2	14.7	12.8	
Service workers, except private household	14.1	16.7	22.2	21.1	39.7	
Farmers and farm managers						
Farm laborers and foremen	.1	1.4	.8	1.1	5.1	

[1] Percent not shown where base is less than 75,000.

NOTE.–Because of rounding, detail may not add to totals.

Source: See Note 46.

Educational Trends

About one-third of the Class of 1972 not enrolled in college and not in the labor force could be found, in October 1972, enrolled in special schools, such as trade schools or business colleges.[47] In 1966, according to an Upjohn Institute survey, there were about 7,000 such schools (3,000 trade and technical schools with about 835,000 students, 1,300 business colleges with about 440,000 students, and

2,700 schools of cosmetology and barbering with about 320,000 students).[48]

> From 1949 to 1971 the number of proprietary school students rose from 0.8 to 1.4 million, with female enrollments nearly doubling. As a percentage of the 18- to 24-year-old population, male enrollments went from 5.1% to 6.6% and female enrollments from 1.9% to 5.5%; relative to college enrollments, on the other hand, the number fell [0.34 (1949) to 0.16 (1971)] especially in the 1960's when public subsidization of colleges increased greatly.[49]

Since 1962, when nearly half the graduates not enrolled in college and not in the labor force were enrolled in proprietary schools, there has been a downward enrollment trend, perhaps reflecting the growth of vocational curricula and enrollment in 2-year colleges. This downward trend may also reflect the growth of "in-house" company-sponsored training for employees which could provide both employment and low- or no-cost training.[50]

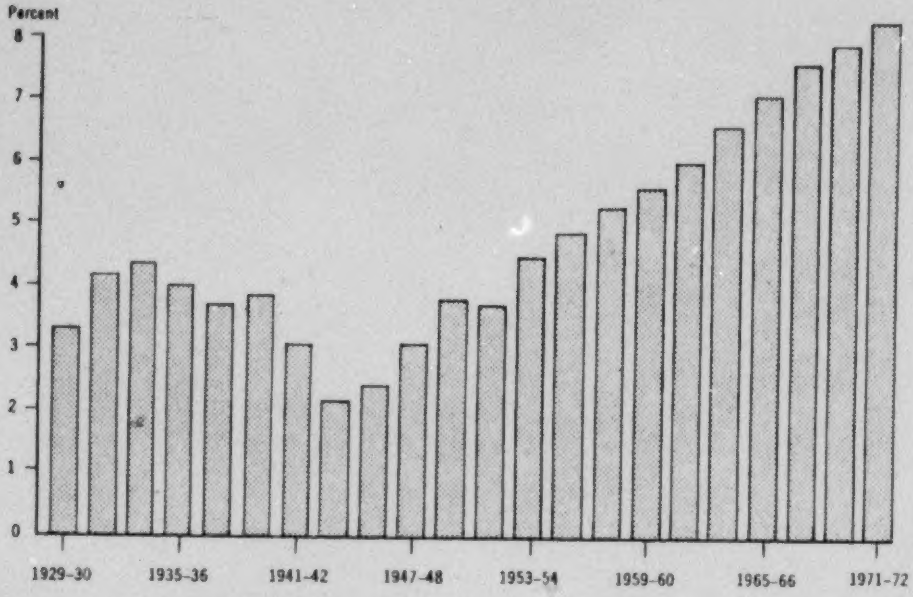
There is some reason to believe that such vocational training may provide effective means of obtaining and retaining employment. The economic situation in 1973-1974 was worse than that in 1972-1973; nonetheless, Arthur M. Lee could state:

> More than one million former Vocational Education students who had completed their programs in 1973-74 were reported employed in October 1974. This was 90 percent of all those who were available to work. It was only one percentage point less than the previous year. No other comparable employment rate held up as well, while growing numbers of the Nation's labor force were being laid off and jobs were hard to get.[51]

The proportional declines in proprietary school enrollments and the concomitant increases in vocational involvement of 2-year colleges has been paralleled by increasing public investments in education. In 1971-72 total expenditures for education, as a percentage of gross national product, exceeded 8% (Figure 1.8). Per-pupil expenditures have also risen, both in current and constant dollars over the years,

Figure 1.8

Total Expenditures for Education as a Percentage of the Gross National Product: United States, 1929-30 to 1971-72



Source: See Note 52.

from $749 in 1959-60 to $1,281 in 1973-74 (both figures in 1973-74 dollars) (Table 1.16). Rising expenditures have been accompanied by a shift in the source of public funds used for educational purposes. In the academic year 1919-1920, for example, 83% of the costs of public elementary and secondary education were met through sources of funds below state level. By 1945-46, local funding had dropped to 63.8% of

Table 1.16

Total and Current Expenditure Per Pupil in Average Daily Attendance in Public Elementary and Secondary Schools: United States, 1929-30 to 1973-74

School year	Unadjusted dollars		Adjusted dollars (1973-74 purchasing power)[1]	
	Total[2]	Current[3]	Total[2]	Current[3]
1	2	3	4	5
1929-30	$108	$87	$294	$237
1931-32	97	81	314	262
1933-34	76	67	268	236
1935-36	88	74	299	251
1937-38	100	84	326	274
1939-40	106	88	354	294
1941-42	110	98	329	293
1943-44	125	117	335	314
1945-46	146	136	371	346
1947-48	203	179	436	356
1949-50	259	209	510	412
1951-52	313	244	565	433
1953-54	351	265	609	460
1955-56	388	294	673	510
1957-58	449	341	733	557
1959-60	472	375	749	595
1961-62	530	419	822	650
1963-64	559	460	848	696
1965-66	654	537	956	785
1967-68	786	658	1,078	902
1969-70	955	816	1,190	1,008
1971-72	1,128	990	1,279	1,122
1973-74[4]	1,281	1,116	1,281	1,116

[1] Based on the Consumer Price Index, prepared by the Bureau of Labor Statistics, U.S. Department of Labor.

[2] Includes current expenditure for day schools, capital outlay, and interest on school debt.

[3] Includes day school expenditures only; excludes current expenditures for other programs.

[4] Estimated.

Source: See Note 53.

the educational receipts and, in 1972-73, had declined to barely more than half (51.3%). While both state-level and federal sources of funds have grown over the period 1919-1973, federal involvement in elementary and secondary education still represents less than 10% of revenues. State-level funding represented 40.0% of receipts in 1972-73, compared with 16.5% in 1919-20 (Table 1.17).

Table 1.17

Public Elementary and Secondary School Revenue Receipts from Federal, State, and Local Sources: United States, 1919-20 to 1972-73

School year	Total	Federal	State	Local (including intermediate)[1]	School year	Total	Federal	State	Local (including intermediate)[1]
1	2	3	4	5	1	2	3	4	5
	AMOUNT IN THOUSANDS OF DOLLARS					PERCENTAGE DISTRIBUTION			
1919–20	$970,120	$2,475	$160,085	$807,561	1919–20	100.0	0.3	16.5	83.2
1929–30	2,088,557	7,334	353,670	1,727,553	1929–30	100.0	.4	16.9	82.7
1939–40	2,260,527	39,810	684,354	1,536,363	1939–40	100.0	1.8	30.3	68.0
1941–42	2,416,580	34,305	759,993	1,622,281	1941–42	100.0	1.4	31.5	67.1
1943–44	2,604,322	35,886	859,183	1,709,253	1943–44	100.0	1.4	33.0	65.6
1945–46	3,059,845	41,378	1,062,057	1,956,409	1945–46	100.0	1.4	34.7	63.8
1947–48	4,311,534	120,270	1,676,362	2,514,902	1947–48	100.0	2.8	38.9	58.3
1949–50	5,437,044	155,848	2,165,689	3,115,507	1949–50	100.0	2.9	39.8	57.3
1951–52	6,423,816	227,711	2,478,596	3,717,507	1951–52	100.0	3.5	38.6	57.8
1953–54	7,866,852	355,237	2,944,103	4,567,512	1953–54	100.0	4.5	37.4	58.1
1955–56	9,686,677	441,442	3,828,886	5,416,350	1955–56	100.0	4.6	39.5	55.9
1957–58	12,181,513	486,484	4,800,368	6,894,661	1957–58	100.0	4.0	39.4	56.6
1959–60	14,746,618	651,639	5,768,047	8,326,932	1959–60	100.0	4.4	39.1	56.5
1961–62	17,527,707	760,975	6,789,190	9,977,542	1961–62	100.0	4.3	38.7	56.9
1963–64	20,544,182	896,956	8,078,014	11,569,213	1963–64	100.0	4.4	39.3	56.3
1965–66	25,356,858	1,996,954	9,920,219	13,439,686	1965–66	100.0	7.9	39.1	53.0
1967–68	31,903,064	2,806,469	12,275,536	16,821,063	1967–68	100.0	8.8	38.5	52.7
1969–70	40,266,923	3,219,557	16,062,776	20,984,589	1969–70	100.0	8.0	39.9	52.1
1971–72	50,003,645	4,467,969	19,133,256	26,402,420	1971–72	100.0	8.9	38.3	52.8
1972–73	52,117,930	4,525,000	20,843,520	26,749,412	1972–73	100.0	8.7	40.0	51.3

[1] Includes a relatively minor amount from other sources (gifts, tuition, and transportation fees from patrons), which accounted for 0.4 percent of total revenue receipts in 1967–68.

NOTE.—Beginning in 1959–60, includes Alaska and Hawaii. Because of rounding, details may not add to totals.

Source: See Note 54.

A portion of these receipts have been disbursed for vocational education, especially since the Vocational Amendments of 1968. Between the two years 1966 and 1968, expenditures for vocational education jumped 49%, from $799,895,000 to $1,192,863,000. Year-to-year increases amounted to 54% between 1968 and 1970, 44% between 1970 and 1972, and 14% between 1972 and 1973, representing a 3-3/4 increase in level of funding for vocational education over the 8-year period. State and local components of vocational education went from $349,518,000 in 1968 to $2,551,400,000 in 1973, a 730% increase in level of funding. Undoubtedly, vocational education is the fastest growing component of the educational domain (Table 1.18).

Table 1.18

Expenditures of Federal, State, and Local Funds
for Vocational Education: United States
and Outlying Areas, 1920 to 1973
(in thousands of dollars)

Fiscal year 1	Total 2	Federal 3	State 4	Local 5
1920	$8,535	$2,477	$2,670	$3,388
1930	29,909	7,404	8,233	14,273
1940	55,081	20,004	11,737	23,340
1942	59,023	20,758	14,045	24,220
1944	64,299	19,958	15,016	29,325
1946	72,807	20,628	18,538	33,641
1948	103,339	26,200	25,834	51,305
1950	128,717	26,623	40,534	61,561
1952	146,466	25,863	47,818	72,784
1954	151,289	25,419	54,550	71,320
1956	175,886	33,180	61,821	80,884
1958	209,748	38,733	72,305	98,710
1960	238,812	45,313	82,466	111,033
1962	283,948	51,438	104,264	128,246
1964	332,785	55,027	124,975	152,784
1966	799,895	233,794	216,583	349,518
1968	1,192,863	262,384	400,362	530,117
1970	1,841,846	300,046	(1)	[1]1,541,801
1972	2,660,759	466,029	(1)	[1]2,194,730
1973	3,033,659	482,259	(1)	[1]2,551,400

[1] State funds are included with local funds in column 5.

NOTE.—Because of rounding, details may not add to totals.

Source: See Note 55.

Three responses to the increased levels of educational funding may be observed. First, school retention rates, measured by the number of high school graduates per 1,000 students entering fifth grade have steadily increased from 467 in 1942, to 505 in 1950, to 621 in 1960, to 750 in 1970. The Class of 1972 dropped somewhat, to 748 graduates per 1,000 fifth grade entrants, but the figure rose to 749 in 1973.[56]

Second, the increases in levels of educational funding have been met through increases in tax levels, frequently obtained through successful school bond elections. The success rates of such elections reached a peak of 74.7% in 1964-65, but with a very minor exception between 1966-67 and 1967-68, have declined monotonically ever since. In the inflation plagued, uncertain income period 1972-73 only 56.5% of school bond elections were successful, suggesting the public's unwillingness to underwrite additional levels of taxation.[57]

The third response to increasing investments in education has been a growing belief that education was the key to future success, indicated by the recent motto, "to get a good job, get a good education." Public acceptance of this principle was reflected in monotonically increasing enrollment rates of persons in the 18-24 age group in degree-credit institutions of higher education for the years 1951-1970. The mild slump of 1971 reversed in 1972 to reach an all-time 1973 high of 32.3 enrolled persons per 100 persons 18-24 years of age.[58]

Summary

The events of 1972-73 were characterized by political turbulence and scandal in high places. While the U.S. withdrew from the Vietnam war, the Arab-Israeli conflict persisted. Terrorist bombings, aircraft hijackings, and other forms of unrest were prominent in the news.

The U.S. economy was unsettled, recovering from a minor recession and heading for a more serious one. Marked increases in the rate of inflation were present and white-collar unemployment, at 3.5 percent in 1971, was unusually high. The energy crisis appeared in late 1973.

Growing investments in education exceeded 8% of the Gross National Product during this period, with heavy and increasing investments appearing in vocational education. High taxes on incomes and property, coupled with uncertain economic conditions, were producing public unwillingness to support additional educational expenses. It was in the midst of these circumstances that the High School Class of 1972 graduated and experienced their first 18 months as adults.

1.3 Organization of the Report

The balance of this report is primarily concerned with the analysis of data from the Base Year Survey and the First Followup Survey of the High School Class of 1972, and is presented in two main sections. The first five chapters deal with the substance of the Class of 1972--where they have come from, where they are going, what they are doing now, and how they came to be doing what they are doing.

Chapter 2 presents a descriptive demography of the activities and states in which the Class of 1972 were found during the approximately 18-month period since graduation.

Chapter 3 presents relationships between data gathered during 1972 and data gathered during the First Followup, especially as regards transitions from activities or states in high school into activities or states after high school. Also considered in this chapter are relationships between earlier characteristics (such as characteristics of the early homes of the respondents) and "current" characteristics (such as enrollment in 4-year colleges).

Chapter 4 is devoted to the important area of plans and aspirations of the respondents, and to the changes in such plans which have occurred since high school.

Chapter 5 is a summary of the first four chapters.

Part II of the report is methodological. Chapter 6 presents information related to the specifics of some analysis procedures, Chapter 7 discusses problems of nonresponse in NLS data, and Chapter 8 presents some discussion regarding strengths and weaknesses of the data, together with some remarks regarding possible future activities.

Chapter 1: Notes

1. U. S. Office of Education, RFP OE-72-6, "Longitudinal Studies of Educational Effects: National Longitudinal Study of the High School Class of 1972," November 22, 1971, Part I, p. 1.

2. Hilton, Thomas L.; Rhett, Haskell; Creech, F. Reid; et. al., "The Base Year Survey of the National Longitudinal Study of the High School Class of 1972," Final Report, Contract No. OEC-0-72-0903, Educational Testing Service, Princeton, NJ, 08540, June 1973, Abstract.

3. Hilton, Thomas L.; Rhett, Haskell; Creech, F. Reid; et. al., "The Base Year Survey of the National Longitudinal Study of the High School Class of 1972," Final Report of Contract No. OEC-0-72-0903, Educational Testing Service, Princeton, NJ, 08540, June 1973. The tables occupy Appendices A through F.

4. The report is the Final Report of Contract No. OEC-0-73-6806, and appears in three parts, as follows:

   Creech, F. Reid, Part I: Selected Characteristics of the Class of 1972, PR-74-23, Educational Testing Service, Princeton, NJ, 08540, 1974.

   Echternacht, Gary, Part II: Characteristics Distinguishing Vocational Students from General and Academic Students, PR-75-3, Educational Testing Service, Princeton, NJ, 08540, 1975.

   Freeberg, Norman E. and Rock, Donald A., Part III: Aspirations and Plans of High School Students: The Role of Academic, Social, and Personal Characteristics, PR-75-5, Educational Service, Princeton, NJ, 08540, 1975.

5. These are the numbers available on the National Longitudinal Study release tape. To arrive at these numbers a variety of minor structural changes were made in the sample. A more detailed description of the structure of the sample and the changes made to it can be found in:

   Levinsohn, Jay; Riccobono, John A.; and Moore, R. Paul, "National Longitudinal Study of the High School Class of 1972: Base Year and First Follow-Up Data File Users Manual (Preliminary), Research Triangle Institute, Research Triangle Park, NC, 27709, April 1975, pp. 1-13.

6. Research Triangle Institute, Tabular Results of the First Followup Questionnaire, Parts I-IV. Prepared for National Center for Education Statistics under Contract OEC-0-73-666, Research Triangle Institute, Research Triangle Park, NC, 27709, July 7, 1975.

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7. U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C. Table 2, p. 5.

8. This assumes the Class of 1972 to have entered first grade in 1960. In that year the U. S. Bureau of the Census obtained a resident population of 179,979,000 persons. See:

   U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series A-7, p. 8.

9. The data for Figure 1.1 are taken from Historical Statistics of the United States (see note 8) for the years 1940-1970. Data for later years are taken from The Statistical Abstract of the United States (see note 7). Data for 1960 and later include Alaska and Hawaii.

10. U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series A5, p. 8. Data for 1974 are based on data from the Statistical Abstract of the United States (see note 7).

11. U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series A57-A72, p. 11. Data for 1950 use a 1950 urban definition; those for 1960 include Alaska and Hawaii; those for 1970 use a 1970 urban definition.

12. U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., Table 37, p. 33.

13. Single refers to persons who are not married, widowed, or divorced. Data for 1940-1970 are taken from:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series A160, A161, A166, and A167, p. 20.

    Data for 1974 are taken from:

    U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 47, p. 38.

14. Data for 1940-1970 are taken from:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series A158, A159, p. 19.

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Data for 1972-1974 are taken from:

> U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 94, p. 67.

15. Data reflect the number of births for women age 15-44 in the population. Data from 1960 onwards include Alaska and Hawaii. The years 1940-1970 are taken from:

> U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series B8, p. 49.

Data for 1971-1973 are taken from:

> U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, 1976, Table 68, p. 53.

16. Data are not readily available which demonstrate the distribution of illegitimate birth rate by age. However, sampling activities during the Base-Year Survey located a number of schools which were established solely for the education of pregnant (and generally unmarried) high school girls. This suggests that illegitimate births may be concentrated in the younger ages. If this is true, unplanned births may have dramatic and adverse impact on the vocational and educational futures of a substantial portion of the Class of 1972.

17. Data shown represent the number of illegitimate births per 1,000 unmarried females of all ages; 1960 and later data include Alaska and Hawaii; 1970 and later data exclude nonresident aliens. For 1940-1970, data are taken from:

> U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series B29, p. 52.

For 1971-1973, data are taken from:

> U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 77, p. 57.

18. The dynamics of divorce as regards children are not well understood, despite the volumes of reports which have been written. It is known, for example, that children raised by the opposite-sexed parent have juvenile delinquency rates in excess of those for children raised by the same-sexed parent or by both parents; also, psychosexual development of males is frequently inappropriately sex-role stereotyped when raised by the mother in the absence of the father (the usual case in this country). Since father absence is predominant, a number

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of studies have explored the impact of father's presence or absence on children; conversely, the paucity of mother-absent homes has resulted in insufficient data upon which to evaluate the differential effects of mother's presence or absence. More to the point of this study, however, is the fact that the relationship between divorce, single-parent rearage, working mothers, etc., upon the later vocational and educational outcomes of children has not been studied. One hypothesis which might reasonably be set forth would be that such children would have lower vocational and educational attainment than children of intact families since the division of one home into two generally results in reduced percapita income, with an attendant lowering in economic status.

19. Data represent the number of divorces and annulments per 1,000 married females. Data for 1960 and later include Alaska and Hawaii. From 1940-1970 data are taken from:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series B217, p. 64.

    For 1972, data are taken from:

    U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D. C., 1976, Table 94, p. 67.

20. U. S. Bureau of the Census, Historical Statistics of the United, States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series A23, A26, A27, and A28, p. 9.

    A portion of the decrease in white composition of the population is due to the addition of Hawaii and Alaska.

21. Data for 1940-1970 are taken from:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series B118 and B119, p. 56.

    For 1972 and 1973, data are taken from:

    U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 83, p. 59.

22. U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Manpower Report of the President: April 1975, U. S. Government Printing Office, Washington, D.C., 1975, Table G-3, p. 340.

23. The 25 percent figure was obtained by averaging the 1974 and 1973 Consumer Price Indices and relating the result to the 1972 Index.

It should be noted that the Consumer Price Index is oriented to urban prices and that the large rural population of the United States is largely ignored. In an energy-intensive agriculture, the increased costs of energy associated with creation and delivery of foods tend to arrive in urban areas somewhat later than experienced in the rural areas.

24. Food represents food consumed at home. Data for 1945-1970 were taken from:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series E135, E136, E149, E156, E160, p. 210.

    Data for 1971-1975 were taken from:

    U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 688, p. 423.

25. Source for 1945-1970 data is:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series G197 (Median Family Income), p. 297, and Series D722 (Average Annual Earnings), p. 164.

    For 1971-1974 data, the appropriate source is:

    U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 596, p. 366 (Average Annual Earnings), and Table 634, p. 391 (Median Family Income).

    Family income and annual earnings presented in 1974 dollars were converted into 1967 dollars on a proportional basis.

26. U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Manpower Report of the President, April 1975, U.S. Government Printing Office, Washington, D.C., 1975, Table A-1, p. 203.

27. U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Manpower Report of the President, April 1975, U.S. Government Printing Office, Washington, D.C., Table C-3, pp. 281-282. Constant (1967) dollar figures are based on Consumer Price Index for all items (see text, Table 1.4).

28. The labor force is comprised of those persons who are employed or are seeking employment. Labor force participation rate represents the proportion of a specified population which is in the labor force.

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We refer to the civilian non-institutional population, or to some component of it, such as the civilian non-institutional population of persons 18 and 19 years of age.

29. Unemployment rates represent the proportion of the labor force which is not employed. Part-time workers are considered to be employed, as are those sometimes referred to as "underemployed."

30. U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Manpower Report of the President, April 1975, U.S. Government Printing Office, Washington, D.C., 1975, Table A-4, pp. 208-209 (civilian labor force participation rates) and Table A-20, pp. 233-234 (unemployment rates).

31. NA means data are not available. Data from 1940-1970 are taken from:

    U. S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part I, Washington, D.C., 1975, Series D58, D59, D60, D62, p. 133.

    Data for 1971-1975 are taken from:

    U. S. Bureau of the Census, Statistical Abstract of the United States: 1975, U. S. Government Printing Office, Washington, D.C., 1976, Table 563, p. 346.

    Data for 1960 and later years include Alaska and Hawaii.

32. Hayghe, Howard, "Labor Force Activity of Married Women," Special Labor Force Report 153, U. S. Department of Labor, Bureau of Labor Statistics, 1973. Reprinted from Monthly Labor Review, April 1973, p. 35.

33. Hayghe, Howard, "Labor Force Activity of Married Women," Special Labor Force Report 153, U. S. Department of Labor, Bureau of Labor Statistics, 1973. Reprinted from Monthly Labor Review, April 1973, p. 36.

34. Hayghe, Howard, "Labor Force Activity of Married Women," Special Labor Force Report 153, U. S. Department of Labor, Bureau of Labor Statistics, 1973. Reprinted from Monthly Labor Review, April, 1973, p. 33.

    From this same report (p. 34, Table 4) we note that the labor force participation rate of wives in 1972 was 41.5 percent; for those having no children under 18 years of age, 42.7 percent, for those having children under 18, 40.5 percent; for those having children aged 6-17 years, 50.2 percent; for those having children under 6 years, 30.1 percent; for those having children between 3 and 5 with none under age 3, 36.1 percent; for those having children under age 3, 26.9 percent.

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See also William V. Deutermann's article, "Educational Attainment of Workers, March 1972," Special Labor Force Report 148, U. S. Department of Labor, Bureau of Labor Statistics, Reprinted from Monthly Labor Review, November 1972. At p. 40 the author states, "...the participation rates of women with children under 6 years old are significantly lower than are those of married women 18 to 44 years old without young children."

35. Hayghe, Howard, "Labor Force Activity of Married Women," Special Labor Force Report 153, U. S. Department of Labor, Bureau of Labor Statistics, 1973. Reprinted from Monthly Labor Review, April 1973, p. 31.

36. U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Manpower Report of the President, April 1975, U.S. Government Printing Office, Washington, D.C., 1975, Tables B-6 and B-7, pp. 256-261.

37. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, p. 26.

38. Deutermann, William V., "Educational Attainment of Workers, March, 1971," Special Labor Force Report 140, U. S. Department of Labor, Bureau of Labor Statistics, 1972, p. 31.

39. Labor force participation rates and unemployment rates are taken from:

    U. S. Department of Labor and U. S. Department of Health, Education and Welfare, Manpower Report of the President, April 1975, U. S. Government Printing Office, Washington, D.C., 1975, Table B-8, p. 263.

    Percentages of graduates not enrolled are taken from:

    Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, Table 3, p. 29.

40. Labor force participation rates and unemployment rates are taken from:

    U. S. Department of Labor and U. S. Department of Health, Education, and Welfare, Manpower Report of the President, April 1975, U. S. Government Printing Office, Washington, D.C., 1975, Table B-8, p. 263.

    Percentages of graduates not enrolled are taken from:

    Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, Table 3, p. 29.

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41. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, p. 28.

42. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, pp. 28-29.

43. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, p. 26.

44. National Center for Education Statistics, Digest of Educational Statistics: 1973, U. S. Government Printing Office, Washington, D.C., 1974, Table 146, p. 136.

45. National Center for Education Statistics, Digest of Educational Statistics: 1973, U. S. Government Printing Office, Washington, D.C., 1974, Table 147, p. 137.

46. National Center for Education Statistics, Digest of Educational Statistics: 1973, U. S. Government Printing Office, Washington, D.C., 1974, Table 148, p. 138.

47. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, p. 26.

48. Freeman, Richard B., "Occupational Training in Proprietary Schools and Technical Institutes," in Review of Economics and Statistics, Vol. 56, August 1974, p. 310.

49. Freeman, Richard B., "Occupational Training in Proprietary Schools and Technical Institutes," in Review of Economics and Statistics, Vol. 56, August 1974, p. 310.

50. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, p. 26.

51. Lee, Arthur M., Learning a Living Across the Nation, Vol. IV, Project Baseline fourth national report, December 1975, Part 1: Narrative Report, Northern Arizona University, Flagstaff, Arizona, 1975, pp. 11-13.

52. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, Figure 5, p. 25.

53. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, Table 78, p. 67.

54. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, Table 71, p. 60.

55. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, Table 79, p. 67.

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56. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, p. 14.

57. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, Table 72, p. 60.

58. National Center for Education Statistics, Digest of Educational Statistics: 1974, U. S. Government Printing Office, Washington, D.C., 1975, Table 86, p. 75.

CHAPTER 2

"CURRENT" STATUS AND ACTIVITIES OF THE CLASS OF 1972

2.1 Introduction

The First Followup Survey began in October 1973 and obtained data for the time period beginning with graduation from high school and ending with the completion of the First Followup Questionnaire (FFQ). Two periods in time received emphasis in the Questionnaire--October 1972 and October 1973. The time period we refer to as "current" therefore begins roughly in May-June 1972 and ends roughly in October '73-January '74.

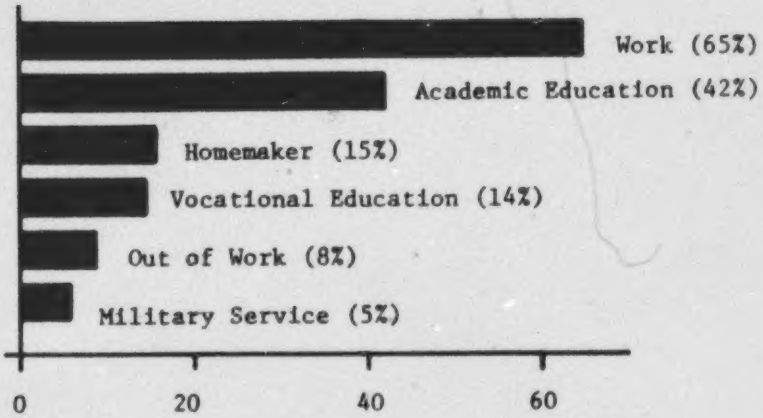
In this chapter we discuss demographic characteristics of the Class of 1972 during the "current" post-high school period, with emphasis on the educational and occupational status of members of the class and the activities in which they engaged.

2.2 General States and Activities

The first item in the FFQ requested respondents to indicate whether or not they were currently participating in each of six different activities: (1) working, either full or part time; (2) taking vocational or technical courses; (3) taking academic courses; (4) active military service; (5) homemaking; and (6) on temporary layoff, looking for work, or waiting to report to work. The responses to this item are summarized in Figure 2.1, which indicates that, of the available options, working was the most prevalent activity with 65% of the Class of 1972 employed. Eight percent of the Class was either on temporary layoff, looking for work, or waiting to report to work. The combination of these two, neglecting a minor number of persons who indicated they

Figure 2.1

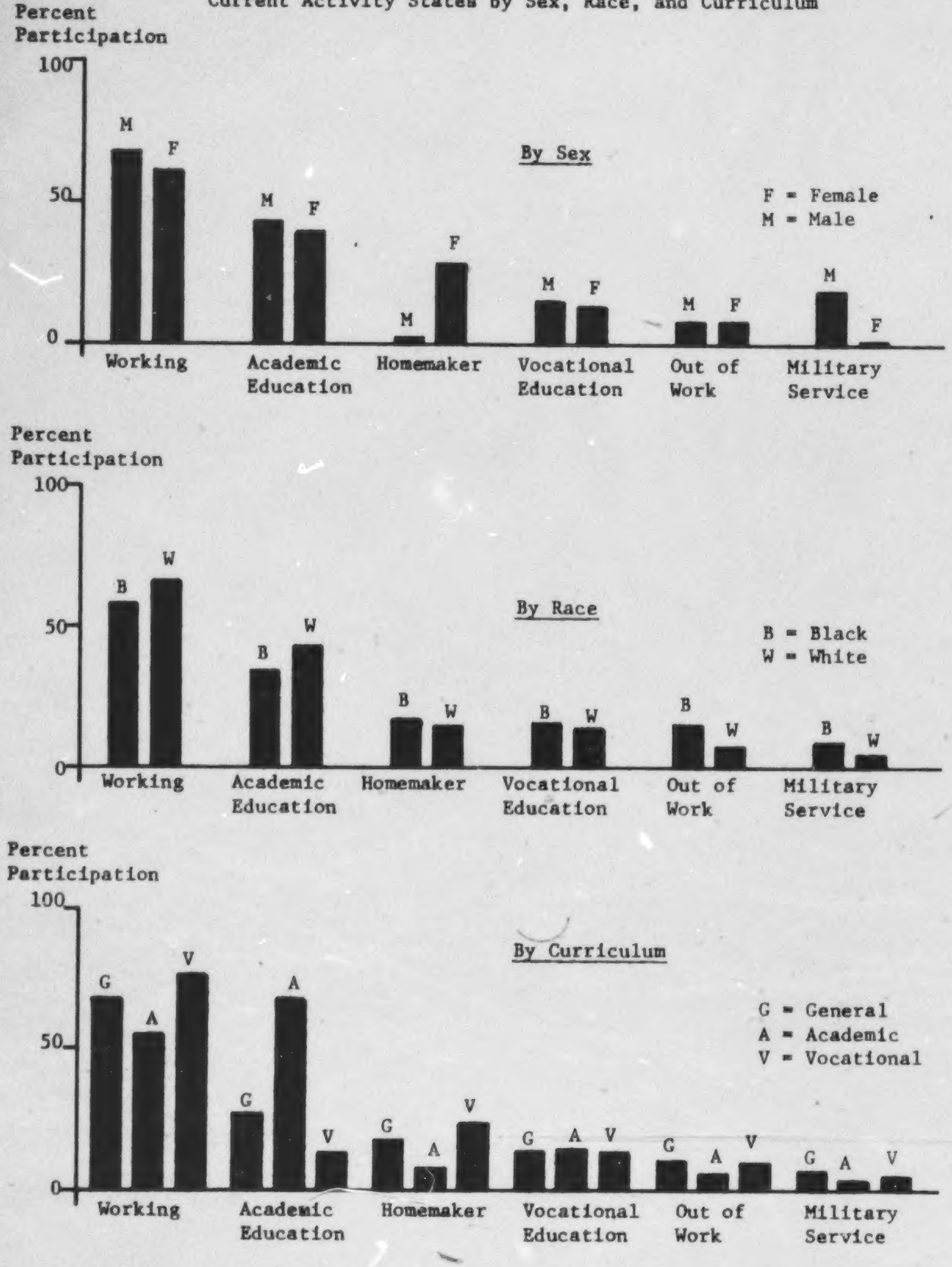
Current Activity States



Source: See Note 1.

Figure 2.2

Current Activity States by Sex, Race, and Curriculum



Source: See Note 2.

were both employed and on layoff, suggests a labor force participation rate of about 73%.[3] As can be seen in Figure 2.2, males were slightly more likely to be employed than females. Employment of blacks (58%) was somewhat lower than that of whites (66%). Graduates of the vocational high school curriculum were employed at a higher rate (77%) than were graduates from the general (68%) or academic (56%) curricula. The curricular difference in employment rates persists when the data are divided by race, although black graduates are employed at lower rates than whites from the same curriculum in all cases.

A number of other characteristics distinguish those who were working from those who were not. Those who were employed tended to be living with their parents ($\underline{p} < .002$)[4] relatively more frequently than those not working (who tended relatively more frequently to be living with friends, often in a college setting). Working respondents reported higher incomes than those not working, and tended to be employed at the time of the survey with the same employer since October 1972; those not currently employed tended not to have been working at either point in time ($\underline{p} < .002$).

Working status was significantly associated with jobs offered as financial aid to respondents who had applied to colleges ($\underline{p} < .01$). There was also a slight tendency for working students not to be working towards a college degree, in contrast to nonworking students ($\underline{p} < .001$). Nonworking students tended to be concentrated in academic fields of study, while working students were about evenly divided between academic and vocational fields ($\underline{p} < .001$). For respondents who were enrolled in school in October 1972, those working at the time of the survey tended no longer to be enrolled; nonworking students tended to be still enrolled, and to be in the same field of study ($p < .001$). The kinds of schools attended also differed between working and nonworking students. Nonworking students tended to be found relatively more frequently in four-year colleges, while working students were about evenly divided between two-year and four-year colleges ($p < .001$). These differences are reflected in educational aspirations and plans which, for nonworkers, tended to favor a minimum of four years of college, while workers tended to be satisfied with a high school education or, to a lesser degree, with limited (2 years or so) vocational training ($p < .002$).

Educational Activities

Forty-two percent of the Class of 1972 indicated they were currently taking academic coursework, and 14% indicated they were taking vocational or technical courses (Figure 2.1). Such academic activities were slightly more prevalent for men than for women. Blacks were slightly more likely to be enrolled in vocational coursework than were whites (16 to 14%), but whites were more likely than blacks to be enrolled in academic areas (43 to 35%) (Figure 2.2).

Participation rates in academic coursework vary appreciably according to high school curriculum, from 68% for graduates of the academic curriculum, to 27% for general graduates, to 13% for vocational graduates. The figures are much more uniform for postsecondary vocational courses, but show the lowest investment on the part of graduates of the vocational curriculum: academic, 14.8%; general, 14.1%; vocational, 14%. From these data it would appear that graduates of the vocational high school curriculum do not tend toward postsecondary education. This tendency may have serious ramifications. John T. Grasso reported that, ". . . among whites, youth from vocational curricula profit more than those from other programs from the post-school training they received."[5] It appears that those who tend not to engage in postsecondary education might be those who would most benefit from such training.

Those taking vocational courses tend to be currently enrolled in such programs, but there is a sex difference. Somewhat higher proportions of females indicate they have completed the program and are no longer enrolled ($\underline{p} < .001$). The type of school attended by those taking vocational courses tends to be vocational or technical schools rather than four-year colleges ($\underline{p} < .001$), and apparently such schools have a minor tendency to offer jobs to students as a form of financial aid ($\underline{p} < .05$); this tendency does not appear to be present for students taking academic coursework. The vocational training period tends to be short--3 months to 2 years--compared with other students who tend to be engaged in programs of greater duration ($\underline{p} < .01$), and the schools tend not to classify their students in the traditional manner as freshmen, sophomores, etc. ($\underline{p} < .001$). The successful completion of vocational training tends to lead to licensure, certification, or to two-year or vocational degrees ($\underline{p} < .001$).

Respondents who were taking academic courses, compared to those who were not, tended to be working fewer hours per week in both October 1972 and October 1973, and to have lower earnings at those times; they also report having worked fewer weeks during the first year after high school ($p < .001$). They tended to be living alone or with friends in contrast to respondents not taking such courses (who tended to be living with parents or, to a lesser degree, with spouses) ($p < .01$). This agrees with the fact that respondents who were not taking academic courses were twice as likely as those taking such courses to be living in private residences. Those taking academic courses tended to be in dormitories or fraternity/sorority houses ($p < .01$).

Respondents who reported taking academic courses tended to be in four-year colleges ($p < .005$), enrolled in an academic field of study ($p < .01$) which generally would require four or more years to complete ($p < .05$),and which would, for 82% of these students, result in a college degree ($p < .02$). Sixty-seven percent of those taking academic coursework are classified as sophomores, which is high compared to nonacademic students ($p < .01$). Twenty-three percent of those taking academic courses changed their field of study between October 1972 and October 1973. Those who were not currently taking academic courses tended not to have been enrolled during October 1973 so that change of field could not be measured ($p < .01$). Those currently taking academic courses seem committed to their endeavor and would be willing to borrow between 1 and 6 thousand dollars to further their education; others tend to be less willing to borrow ($p < .005$).

Military Service

At the time of the First Followup Survey, 5.4% of the Class of 1972 were on active duty. The proportion varied appreciably by race and sex, with 9.4% of the males in the military, compared with 1.2% of the females; 8.6% of the blacks were in the military, compared with 5.0% of the whites. For black males, the figure was 16.5%. Graduates of the general high school curriculum were more likely to enter the military than graduates of other curricula (6.9% for general graduates, 3.9% for academic, and 5.5% for vocational) (Figure 2.2). There was also a negative correlation between military participation and both socioeconomic status and academic ability.

Enlistment in the military tended to result in geographic relocation of the enlistees, frequently to locations more than 500 miles from their homes; those not in the military, by contrast, tended not to have moved ($p < .01$). Those in the military tend to be at pay grade E3, compared to those who had left the military, who tended to be at pay grades E1 and E2 at the time of separation ($p < .05$). Those still in the military at the time of the survey also indicated that they expected to be in the military in October 1974, and that they had plans to use the GI Bill to further their educations ($p < .05$).

Homemaking

Homemaking was reported as a current activity by 15.4% of the Class of 1972, but this figure is misleading since it represents the responses of only 1.7% of the males, but 28.9% of the females. There was little difference by race, but variation by high school curriculum was appreciable. Thirty-six percent of female general graduates, 15% of female academic graduates, and 40% of female vocational graduates reported themselves as homemakers. Homemaking was inversely related to both SES and academic ability, with roughly 15% of both the high SES and high ability groups homemaking, compared to 39% of the low groups (Figure 2.2).

Seventy-four percent of the homemakers reported themselves married or formerly married,[6] a much higher figure than for nonhomemakers ($p < .001$). There was a tendency for homemakers to be living with spouses, compared with nonhomemakers who tended to be living with their parents ($p < .001$); nearly half of the nonhomemakers were still living at the same location as they had during their last year of high school, with slightly more than half (51%) of the homemakers living at a different address,but still within 50 miles of the earlier home ($p < .001$).

The educational plans and aspirations of homemakers were lower than those of nonhomemakers ($p < .01$). Homemakers tended to be enrolled in postsecondary education at lower rates than nonhomemakers ($p < .001$) and, regardless of current enrollment status, homemakers were less likely than nonhomemakers to indicate that they were working toward a degree, licence, or other form of certification ($p < .001$). For those homemakers who were enrolled, their fields of study tended to be vocational in nature, predominantly in office and clerical training ($p < .001$).

Out of Work

At the time of the First Followup Survey, about 8-1/2% of the Class of '72 reported themselves to be temporarily laid off from work, looking for work, or waiting to report to work. This figure varies appreciably across the subgroups of the sample. Blacks, for example, were about twice as likely to be out of work as were whites (15.4%, compared to 7.5%). While out-of-work status did not vary appreciably by sex over the Class as a whole, sex-by-race subgroups showed appreciable variation with 1 of every 6 black females out of work; for white females the figure was 1 out of 13. The discrepancy between black and white females is likely due to the fact that white females were less likely to look for work than were black females, and to a lesser degree, to the fact that there was some racial discrimination at job entry (these factors are elaborated somewhat in the sequel).

Graduates of the academic high school curriculum reported out-of-work status only half as frequently as did graduates of the general or vocational curricula. This, of course, should not be confused with differences in unemployment rate, since academic graduates are less likely than others to be in the labor force. Graduates with high academic ability are predominantly those from the academic high school track, and such respondents were only one-third as likely as low ability graduates to report themselves out of work. Variation by SES was similar.

2.3 Characteristics of the "Current" Home

About half of the Class of '72 still lived with their parents at the time of the First Followup Survey. The proportion for blacks (55%) was about 6% higher than for whites, and the Northeastern United States, with 58% of the Class still living with their parents, was appreciably higher than the 46-47% figure which prevailed in other regions. Blacks in the Northcentral region disturb this pattern--61% of them still lived with their parents. The Northcentral figure for whites (47%) was considerably lower.

About 15% of the Class indicated they were living with spouses, a figure which is imbued with a strong sex effect. Only 8% of the males, but 21% of the females were living with spouses, reflecting the tendency for women to marry at earlier ages than men (10% of the men, but

23% of the women were married). Living with a spouse and being married are related to the race of the individual, with fewer blacks than whites married.[7] There was also a tendency for marriages not to have occurred in the high academic ability, high SES subgroups of the sample. The marital rate for high SES females was, for example, only 12%, compared with 31% of the low SES females.

Roughly a quarter (23%) of the respondents were living with friends. Frequently, this indicated an educational involvement of the respondent and it was noted that 34% of the high school academic graduates were living with friends, compared to only 11% for high school vocational graduates. There were corresponding positive relationships between living with friends on the one hand, and academic ability and SES on the other, especially for females (41% of the high ability females, and 43% of the high SES females lived with friends). The figures for males were slightly lower, reflecting a greater tendency for males to live alone.

Only 3% of the Class indicated they were living with relatives, but this figure rises to about 9% for blacks, perhaps reflecting the tendency for black families to be extended relative to those of whites. Eleven percent of blacks in the southern region were living with relatives.

Three-quarters of the Class reported themselves to be living in private residences or apartments; an additional 16% were living in dormitories. Fraternity/sorority houses accounted for only 1-1/2% of the Class, and this was limited to about 4% of the white, high SES sector of the population.

About 16% of the Class were living in rural or farming areas, with an additional 31% living in small towns under 50,000 in population. Larger cities accounted for another 36%, and suburban areas for the balance. These data can be compared only roughly with those of Table 1.1, but suggest that the Class of 1972 is not distributed by urbanicity in the same manner as is the general U.S. population. The rural population of the Class of '72 is 10% lower than that of the general population, and the small town (under 50,000) population of the Class is 6% lower. There were corresponding increases in the distribution of the Class of '72 into medium- and large-size cities of 50,000-500,000 persons, compared to the distributions of the general population. While these differences entirely may be artifactual,[8] and are at least partly so, the participation of relatively large proportions of the Class of '72 in educational and training activities would suggest urban and suburban locations for at least 55% of the Class, and would incorporate shifts in location from rural to urban/suburban locations in many cases.

Only 12% of the blacks, but 16% of the whites were living in rural or farming areas; this contrasts somewhat with the finding of Herbert S. Parnes that blacks were more likely than whites to be found in rural areas,[9] but we agree with Parnes' finding of relatively greater concentrations of blacks in metropolitan areas and relatively lower concentrations in suburban areas.

Geographic mobility in the Class of '72 was predictably higher than that of the general population--only 48% still lived at the same address as that during the Base-year Survey. Nearly half of those who had moved were found within 50 miles of the earlier home, and the balance were roughly equally divided among ranges of 50-99 miles, 100-199 miles, 200-499 miles, and 500+ miles.

The tendency towards geographic mobility was related to SES, academic ability, high school curriculum, and sex. Academically oriented respondents (i.e., those from the academic track, or of high ability, or high SES) tended to have higher mobility rates (roughly 10% higher than others) and males experienced a mobility rate about 5% lower than that of females, perhaps owing to the establishment of new homes by greater proportions of females who married.

Eighty-three percent of the Class was still single at the time of the Followup Survey, but 12% planned shortly to be married, while 16% (23% of the females) were married. Of those who were married, 29% had one or more children,[10] 89% of these indicating one child and less than 1% indicating more than two. The presence of children was twice as likely (48%) among married blacks as among married whites (26%), and showed the expected relationship to SES, academic ability, and high school curriculum. There was no appreciable sex difference, contrary to earlier expectations, since it had been expected that the earlier ages at first marriage of women, compared to men, would also be reflected in greater incidence of children among married women of the Class, than among married men. This did not maintain, and 29% of married persons of each sex reported children.

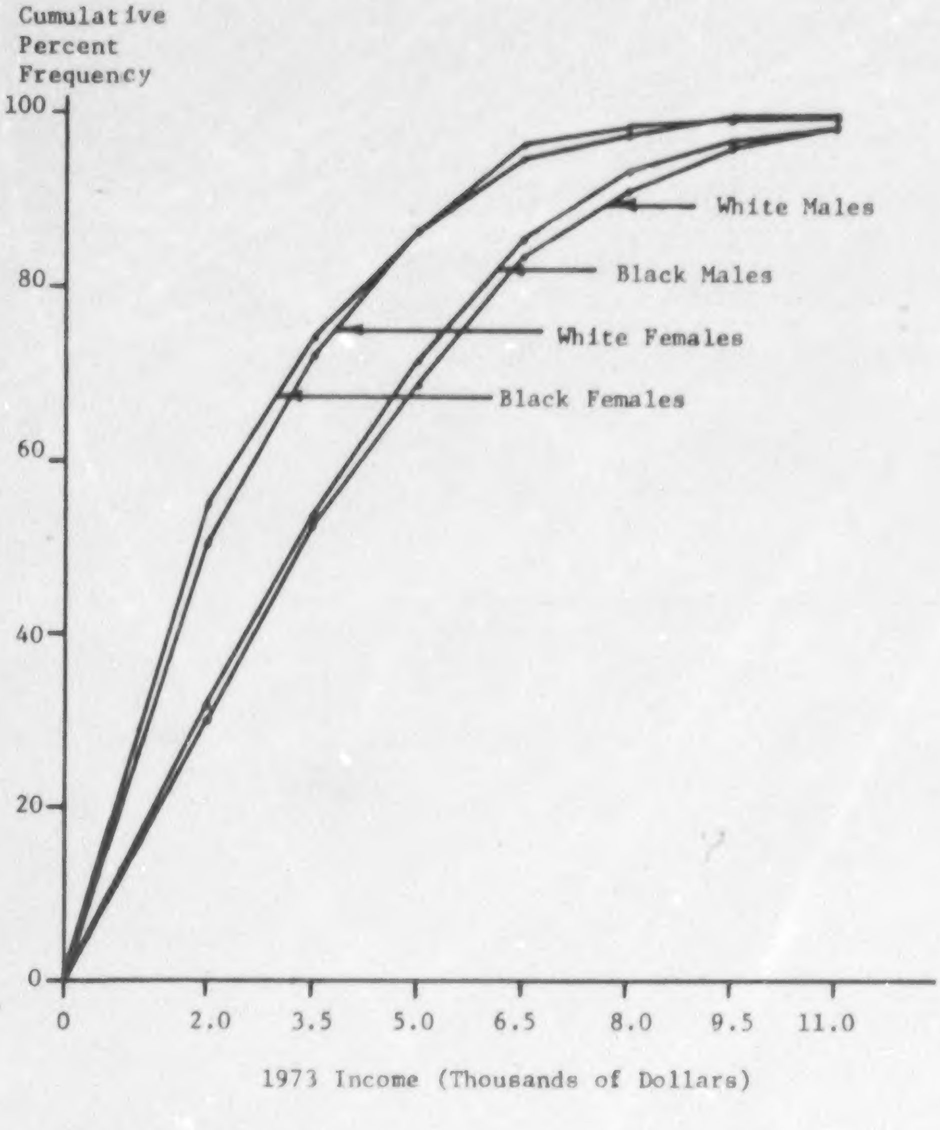
About 44% of the Class reported themselves still dependent upon parents, relatives, or friends for more than half of their financial support. This tendency was strongly related to academic ability, with academically capable respondents being more likely to be dependent upon others. Graduates of the vocational-technical high school curriculum were least likely to be dependent upon others (27% were dependent, compared to 36% of the general and 59% of the academic graduates). Data associated with the presence of persons who were dependent upon the respondent for more than half of their financial support are in general agreement with the respondent's own dependency, although the effects are less dramatic.

Data regarding income[11] are presented in Figures 2.3-2.5. As one would expect, the data differed by race and sex, but while the income of both white males and females exceeded that of blacks, the difference was small compared to the difference between sexes. The median income for black males was about $3250, compared to $3350 for whites; for black females the figure was $1830, compared with $2000 for white females. Graduates of the vocational-technical high school curriculum reported appreciably higher incomes (median = $3920) than did graduates of other curricula (Figure 2.4), but this income advantage was confined to the lower income ranges, and disappeared for incomes above $6500. The median income of graduates of the academic curriculum was about $1940, representing the lowest median income of the three primary high school curriculum groups. The median income of graduates of the general curriculum was about $3120.

With the median income of male respondents at about $3365, and that of their spouses at about $1295, we estimated the family incomes of married males to be approximately $4660. The corresponding figure for married females of the Class was estimated at $7468, reflecting an appreciable income advantage received by females of the Class through the greater incomes of their spouses[12] (Figure 2.5).

Figure 2.3

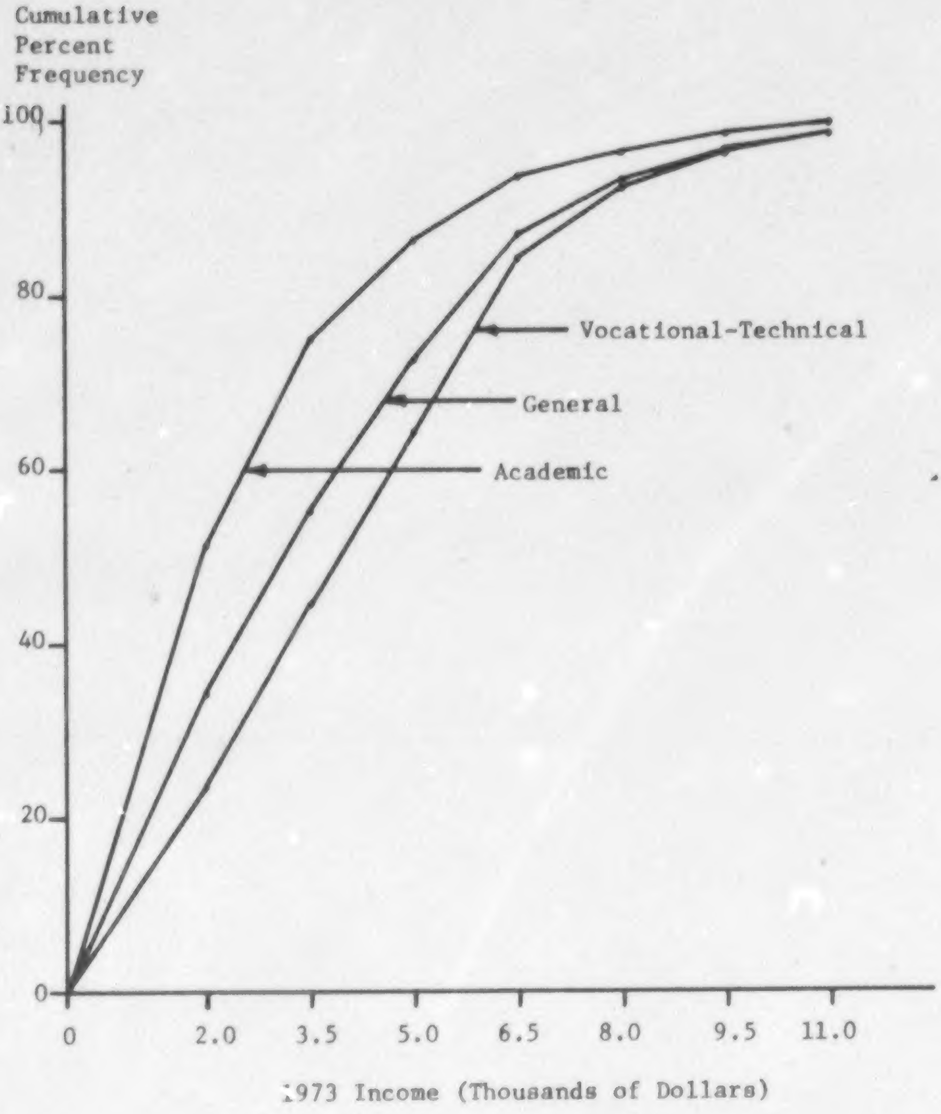
Cumulative Percentage Frequency Distribution of 1973 Income
(by Race and Sex)



Source: See Note 13.

Figure 2.4

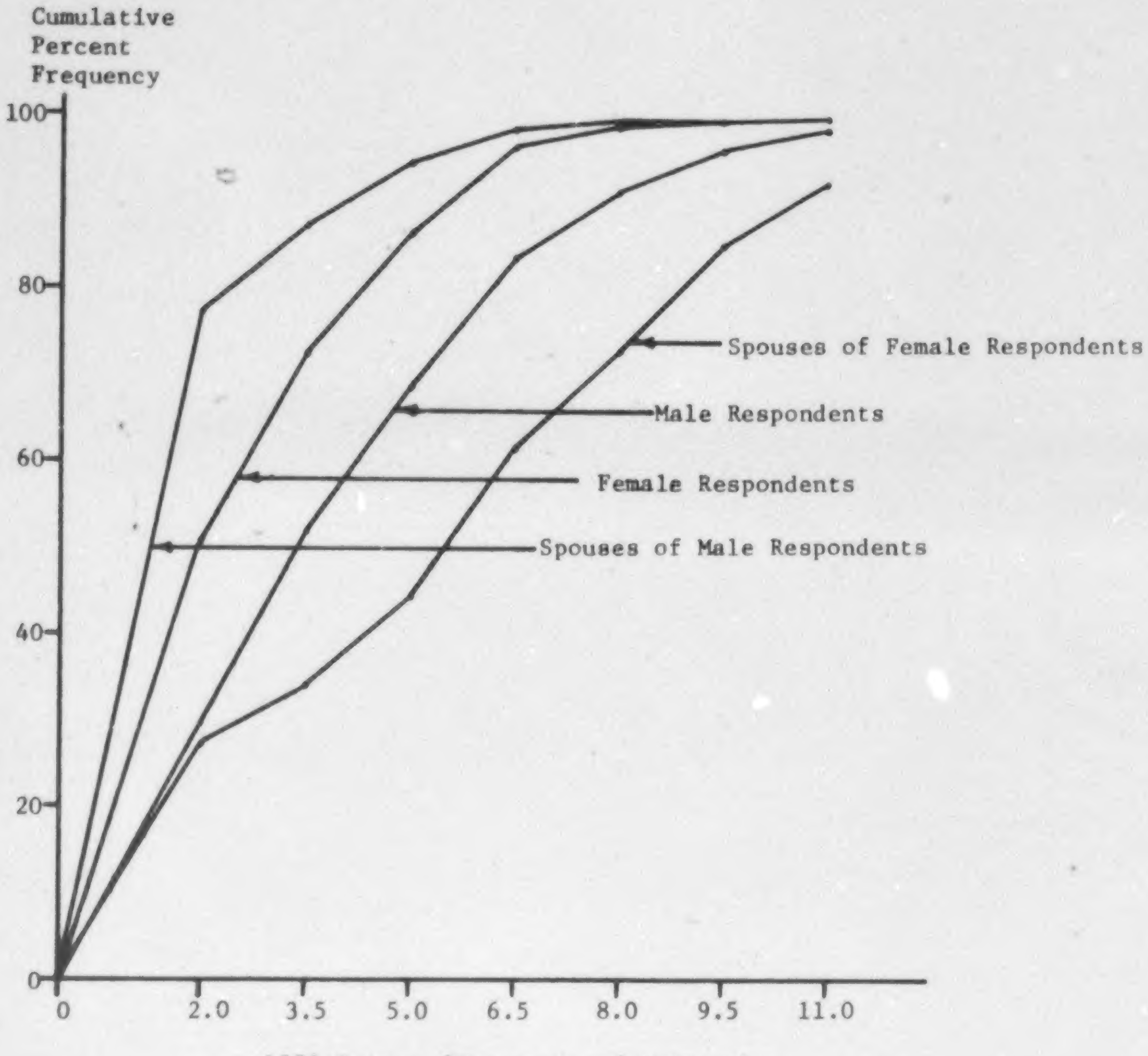
Cumulative Percentage Frequency Distribution of 1973 Income (by High School Curriculum)



Source: See Note 13.

Figure 2.5

Cumulative Percentage Frequency Distribution of 1973 Income of Male and Female Respondents and Their Spouses



Source: See Note 14.

The contribution of women to family income was also appreciable. For Class of '72 males, wives contributed 28% of the family's income; Class of '72 females contributed about 26%. Since the incomes of husbands of Class females are greater than those of Class males, these results suggest that Class females have earnings greater than those of wives of Class males. This may be a reasonable perception since it is likely that Class of '72 males will have tended to marry women younger than themselves, with attendant lacks of skills and earnings capabilities. The contributions of females to family income, when viewed separately by race, produce percentages similar to those reported above except for black females of the Class, who contributed about 36% of the family income. Taken on the whole, these results are similar to those of John R. Shea in his study of mature women:

> Married women between the ages of 30-44, especially when they work full time, make considerable contributions to the incomes of their families. Considering only married wage and salary workers, white women usually employed full time contributed, on average, roughly a third of the total income of their families in 1966 (median earnings were $3,606, while median family income was $11,006). Black women working full time, although they earned somewhat less than white women, accounted for a slightly larger proportion of the income of their families (median earnings and family income of $2,906 and $8,267, respectively).[15]

2.4 Educational Detail

It was indicated earlier that 42% of the Class of 1972 were taking academic course work, and 14% were taking vocational or technical course work at the time of the First Followup Survey. These figures reflect a one-point-in-time assessment, and do not represent the full scope of educational activities in which the Class engaged between high school graduation and the First Followup Survey.

Nontraditional Education

Nontraditional forms of education (on-the-job training, registered apprenticeships, manpower training programs, personal enrichment and correspondence courses, for example) were indicated by over a fifth (21%) of the Class. Involvement in such educational and training activities was slightly more prevalent for blacks than for whites (25% to 21%), and showed greater involvement by low and middle SES groups than for the high SES group. Participation by academic ability was similar. As one might expect, graduates of the high school vocational curriculum (27% participation) were more frequently in nontraditional education than were graduates of other curricula (22% for general graduates, 18% for academic graduates).

There was no overall sex difference in the participation rates in nontraditional education; neither was there a sex difference between graduates of the vocational or the academic curriculum. For graduates of the general curriculum, males were slightly more likely to participate (25%) than were females (20%).

The types of nontraditional programs in which the Class indicated its involvement are shown in Table 2.1. It can be observed that on-the-job training, endorsed by 79% of those who had experienced nontraditional educational activities, was nearly four times more prevalent than any other type. Noncredit courses for personal enrichment, with 18% of the nontraditional students involved, was the second most frequently reported activity. Correspondence courses (10%) and registered apprenticeship programs (9%) represented the third and fourth largest participation rates, with the remaining activities only half as frequently endorsed. Correspondence courses, endorsed by 10% of the nontraditional participants, would represent an involvement of about 2% of the whole Class (10% of the 21% who had engaged in nontraditional education).

Table 2.1

Endorsement of Modes of Nontraditional Education by Nontraditional Students

Mode of Nontraditional Education	Percent Endorsement
On-the-job training	79%
Formal registered apprenticeships	9
Manpower Development and Training (MDTA)	5
Work Incentive (WIN)	3
Neighborhood Youth Corps (NYC)	4
Other Manpower program	3
Correspondence courses	10
Noncredit courses for personal enrichment	18
Other	21

Nontraditional education programs tended to be of shorter duration than those which would be encountered in more traditional education modes. Table 2.2 displays the percentage distribution of program duration by race and sex. It can be noticed that the programs engaged in by women were appreciably shorter than those by men; women were nearly twice as likely as men to have engaged in a program less than one month in duration, and men were twice as likely as women to have engaged in a program 12 or more months in duration. There was also a tendency for blacks to have participated in shorter programs than whites. Twenty-four percent of the blacks, but 31% of the whites, participated in programs 12 or more months in duration.

Table 2.2

Percent Distribution of Durations of Nontraditional Education Programs by Nontraditional Students

Program Duration	Males	Females	Blacks	Whites	Total
Less than one month	14%	26%	19%	20%	20%
1-5 months	31	38	38	34	34
6-11 months	14	16	19	15	15
12 or more months	41	20	24	31	31

Altogether, 58% of the nontraditional students indicated they had completed their programs at the time of the First Followup Survey, and 30% were still enrolled. Owing to the shorter programs engaged in by women, proportionally more women than men had completed their programs (69% to 47%) and proportionally more men than women were still enrolled (39% to 20%). About 12% of the nontraditional students had dropped out of their programs prior to completion. Dropout rates did not vary dramatically across the major subgroups of the sample, but were slightly more prevalent among males than females, among blacks than whites, and among low academic ability groups than those of higher ability.

Regardless of course completion, nontraditional education participants strongly indicated the utility of such courses; 76% of them indicating they had been able to make use of the knowledge and skills attained on the job. This figure was as high as 82% for female graduates of the vocational high school curriculum, and dropped to a low of 61% for blacks who, it should be remembered, faced relatively higher unemployment rates than did whites.

Traditional Education

On the whole, 64% of the Class of 1972 indicated their participation in some form of traditional postsecondary education (colleges, universities, business or trade schools, service academies, technical or vocational schools, junior or community colleges, etc.), prior to October 1973. The balance of the Class had not participated in formal, traditional postsecondary educational activities, and these provided a variety of reasons for not doing so. Table 2.3 displays the reasons most frequently cited by selected subgroups of the Class.

Table 2.3

Reasons for Not Engaging in Postsecondary Education Prior to October 1973 and Cited by at Least One-Third of All Postsecondary Nonparticipants

	Percent of Subgroups Citing Reason							
Reason Cited	Males	Females	Blacks	Whites	General	Academic	Vocational	Class
Desire to earn money	72%	65%	71%	69%	69%	61%	72%	68%
Planned to be married	23	49	30	38	36	31	40	37
Offered a job wanted	26	39	37	40	35	31	41	37
Could not afford 4-year college or university	34	33	45	32	33	38	32	34
Needed money for further education	35	30	49	30	31	41	30	33
Wanted practical experience before continuing education	40	27	39	33	34	42	29	33

Source: See Note 16.

The most frequently cited reason for not engaging in traditional postsecondary education was a desire to earn money, and this reason was most frequently cited by males and by graduates of the vocational high school curriculum. Substantial numbers of females indicated a desire to be married as a reason for discontinuing their educations[17] while males tended to express work-oriented reasons. Blacks tended not to indicate marriage as a factor, at least compared to whites, but presented financial reasons with greater frequency than whites.

Stopouts and Dropouts

It is, of course, not clear whether the respondents who did not participate in postsecondary activities prior to October 1973 have now dropped out of the educational system entirely, and certainly many of them have "stopped out," i.e., have merely delayed their entrance into the postsecondary world. One question in the First Followup Questionnaire relates to this issue since it asked the respondents to provide reasons for not continuing their postsecondary educations immediately after high school. The reasons provided by the item were identical with those discussed above, excepting one additional subitem which allowed respondents to indicate that they wanted to take a break from school. This option was selected by 48% of those who had not entered traditional postsecondary education right after high school. Endorsement rates were similar for most major subgroups of the sample except blacks, only 36% of whom provided this reason.

For the remaining subitems of the two items a comparison could be effected, contrasting respondents with no formal postsecondary activity between high school graduation and the First Followup Survey with respondents who had experienced some formal postsecondary activity but who were not enrolled during October 1972.[18] The latter group consists mostly of stopouts and were compared with the former group which was assumed to consist of dropouts. In the main, the reasons given for stopping out by stopouts were similar to those given for dropping out by dropouts, but there were a few noteworthy exceptions. Only 29% of the stopouts indicated that they had stopped out because their plans did not include more education, compared with 44% of the dropouts. Only 23% of the stopouts indicated they had stopped out because they planned to be married, compared to 37% of the dropouts. Finally, 37% of the black dropouts, but only 22% of the black stopouts, indicated that an attractive job offer was a reason for staying out of the education world.

"Dropouts," i.e., those who had not participated in formal postsecondary education between graduation and the time of the First Followup Survey, represented 36% of the Class of 1972. The remainder experienced some form of formal postsecondary education during the current period. These repondents were equally divided by sex and by sex within curriculum subgroups. Whites, however, were 8% more likely to have participated in formal education programs than were blacks. The greatest variation in the proportion receiving formal postsecondary education was observed over the levels of academic ability, which ranged from 41% in the low ability subgroup to 87% in the high ability subgroup. Graduates of the vocational high school curriculum were less than half as likely as academic graduates to have participated, while general graduates fell in between. See Table 2.4.

Table 2.4

Participation Rates in Formal Postsecondary Education Activities

Subgroup	Participation Rate
Class of 1972	64%
Males	64
Females	63
Blacks	57
Whites	65
Academic Ability	
Low	41
Middle	65
High	87
Socioeconomic Status	
Low	45
Middle	63
High	87
High School Curriculum	
General	52
Males	51
Females	53
Academic	86
Males	86
Females	87
Vocational	40
Males	40
Females	40

Source: See Note 19.

Application and Admission to Formal Postsecondary Programs

Admission to formal postsecondary education programs was, generally, associated with the earlier completion of formal applications. Altogether, 51% of the Class indicated they had made such formal applications,[20] a figure which varied from 28% of all vocational graduates to 73% of all academic graduates. For general graduates, the figure was 38%.

Of those who had made formal application, 66% indicated that they had been accepted and that they had attended their first-choice school. Surprisingly, variation by both academic ability and SES in the proportion indicating this response was relatively small. Fifty-seven percent of the low ability subgroup were admitted and attended their first-choice school, as did 70% of the high ability subgroup, a difference of only 13 percentage points. The corresponding range in rates for low and high SES subgroups was 11 percentage points. The rate did not vary appreciably between general and academic curriculum groups, but that of vocational-technical graduates was about 6 percentage points lower than others (ranging from 61% as the rate for voc.-tech. males down to 57% for voc.-tech. females).

Only 53% of the black males indicated that they had been accepted by, and had attended, their first-choice schools, the lowest rate of any major subgroup in the Class. This fact is mediated by an additional 34% who were accepted by their first-choice school, but did not attend. Earlier we indicated the greater concern of blacks for the finances of education and this may explain the low attendance rate relative to the acceptance rate.

A similar effect can be noticed for vocational female graduates. Recalling that 10% fewer vocational females than males attended their first-choice school, the data further suggest that 10% more vocational females than males were accepted, but did not attend, their first-choice schools.

Of all those who had made application to their first-choice school, only 8% indicated that they had not been accepted. This figure was remarkably uniform over the subgroups of the population, ranging from a high of 11% for blacks to a low of 6% for the female general subgroup. The rejection rate for academic graduates and the high SES subgroup was 10%, perhaps reflecting the greater selectivity of the schools to which they applied. Only 1% of those who had made application indicated that their application had been approved, but that they could not attend due to the numbers of students already admitted.

Financial Aid

Only 32% of those who had made formal application to their first-choice school also made application for financial aid. Two-thirds of these applications were successful on the whole, but varied across the major subgroups of the population. The proportion of blacks who had applied for financial aid was markedly higher than for whites (55% to 29%), but the relative successfulness of their applications were quite similar. As Table 2.5 illustrates, rates of application decline with SES, as one would anticipate since higher SES respondents would have less need for financial aid. Rather unexpectedly, it was observed that the success rates of requests for financial aid declined with increasing academic ability and socioeconomic status, perhaps suggesting a preponderance of financial aid awards based on financial need rather than scholastic merit. The proportions of vocational graduates who applied for financial aid was lower than those of other curricula, but their success rates were higher.

Table 2.5

Percentages Applying for Financial Aid and the Success Rates for Those Who Applied for Admission to Formal Postsecondary Education Programs

Subgroup	Financial Aid Applicants	Success Rate
Total	32%	69%
Males	31	65
Females	32	72
Blacks	55	67
Whites	29	69
Academic Ability		
Low	33	77
Middle	25	72
High	38	63
Socioeconomic Status		
Low	46	78
Middle	32	69
High	25	56
High School Curriculum		
General	27	74
Males	26	69
Females	29	76
Academic	35	66
Males	34	62
Females	35	69
Vocational	25	80
Males	23	78
Females	26	81

Source: See Note 21.

Formal Education: October 1972 and October 1973

The proportions of persons indicating they were engaged in formal postsecondary educational activities during October 1972 are depicted in Table 2.6. It can be seen that, at that time, 54% of the Class was taking course work. The data display the now familiar pattern of school

Table 2.6

Percentages of the Class of 1972 Who Were Taking Formal Postsecondary Course Work in October 1972

Subgroup	Percentage Taking Courses
Class of 1972	54%
Males	54
Females	54
Blacks	48
Whites	55
Academic Ability	
Low	31
Middle	54
High	79
Socioeconomic Status	
Low	35
Middle	52
High	80
High School Curriculum	
General	41
Males	39
Females	42
Academic	79
Males	79
Females	80
Vocational	28
Males	28
Females	28

Source: See Note 22.

attendance: no sex difference in attendance rates, coupled with variations by race, ability, SES, and high school program. Enrollment of black males was 45%, while that of white males was 56%. These results apparently disagree with the findings of Anne M. Young[23] who reported about 49% for both groups. The disparity probably arises from methodological differences. While Young's report deals with members of the

Class of 1972 who were in college, the current study includes all modes of formal postsecondary education. It is likely that many technical institutes, business schools, etc., were not included in her evaluation, but were included here.

In October 1973 the enrollment rate had dropped to 45% for the Class, a decline of 9 percentage points. The decline was generally uniform across the subgroups of the population except for females, who experienced an 11% decline, while males experienced a decline of only 7%; a difference which reflects the shorter programs of instruction in which females engaged.

The kinds of schools which were attended in October 1972 are shown in Table 2.7. Females and blacks were, respectively, more likely than males and whites to be enrolled in vocational institutions and, as would be expected, SES, academic ability, and the high school academic curriculum were associated with attendance in 4-year colleges and universities. Junior colleges, 2-year colleges, and community colleges tended to be relatively popular choices of low and middle ability and SES subgroups. Only 17% of the vocational graduates attended 4-year institutions in October 1972, a figure which was half of that for general graduates and one-fourth of that for academic graduates. Roughly two-thirds of the vocational graduates were to be found equally divided between vocational-technical institutions and junior colleges.

Table 2.7

Kinds of Schools Attended in October 1972

	Kind of School			
Subgroup	Vocational	Jr. College	4-Year College	Other
Total	14%	27%	54%	5%
Males	11	28	56	5
Females	17	26	52	5
Blacks	19	23	51	7
Whites	13	27	55	4
Academic Ability				
Low	29	34	24	12
Middle	16	34	45	4
High	5	17	75	3
Socioeconomic Status				
Low	24	30	38	9
Middle	16	31	48	5
High	5	21	70	3
High School Curriculum				
General	19	37	38	6
Males	15	41	37	7
Females	22	34	39	6
Academic	7	22	68	3
Males	6	23	69	3
Females	9	21	67	3
Vocational	37	35	17	11
Males	33	36	18	13
Females	40	34	17	9

Source: See Note 24.

In October 1973 the kinds of schools attended changed somewhat, reflecting slight declines in vocational and "other" school attendance, little change in junior college attendance, and appreciable increases in the proportions attending 4-year colleges and universities (up 5% from October '72). In the main, we interpret these findings to suggest the completion of shorter vocational courses, with subsequent discontinuance of enrollment. The removal of these persons from those of the Class who were attending school in October 1973 would tend to leave a group whose educational programs were of longer duration.

The fields of study indicated by 10% or more of the primary subgroups of the sample in October 1972 are presented in Table 2.8. Since

Table 2.8

Field of Study Endorsed by Ten Percent or More of Primary Subgroups in October 1972

Field of Study	Subgroups and Endorsement Rates
Biological Sciences	Males (11%), high ability, high SES, academic graduates (12%-13%), male academic graduates (14%).
Business	All subgroups except female academic and female general graduates. Endorsed by 13% of Class, and by 21% of male general graduates. Vocational males and females had rates of 18% and 12%, respectively.
Education	All subgroups except males and female vocational graduates. Endorsement rates were highest for females (17%) and female academic graduates (20%).
Engineering	Male academic graduates (11%).
Humanities and Fine Arts	Female, high ability, high SES, and academic subgroups endorsed at rates of 10%-11%, with academic females at 14%.
Social Sciences	Academic graduates of both sexes, middle and high SES, high ability, endorsed at rates of 10%-14%.
Other Academic	Female general and academic graduates (10%-12%).
Office and Clerical	Females, blacks, low ability and SES endorsed at rates of 11%-13%; female vocational graduates were highest (42%), female general graduates were at 14%.
Mechanical and Engineering Technology	Males, low ability, and vocational graduates had rates of 11%-14%. Male general graduates (16%) were second to male vocational graduates (36%).
Health Service	Female graduates of vocational and general curricula (11%).

Source: See Note 25.

field of study tended to follow the educational patterns already established the data are not remarkable. It can be noticed, however, that physical sciences, computer technology, public services, and other vocational areas were not frequent fields of study; none of these fields obtained endorsement rates in excess of 5% for the Class of 1972.

The traditional sex-typing of occupations was also observed. Females avoided the engineering sciences, mechanical engineering and technology, and nearly avoided the physical sciences (3% endorsement), while males tended to avoid education (6%), office and clerical (1%), and health service areas (1%).

About 18% of those who had been in attendance in October of both 1972 and 1973 indicated they had changed their field of study. This figure did not vary across the major subgroups of the Class and did not disturb the pattern of course work just described excepting, of course, changes induced by higher rates of female attrition previously discussed. Those who had changed areas of study indicated the acquisition of new information as the most frequent reason for change. New information concerning other fields of study or training areas was cited by 56% of the changers, and having their interest aroused by courses they had taken was cited by 53%. Difficulty with course work, poor advice regarding the original choice of field, and lack of information regarding jobs associated with the original field of study were each cited between 20 and 25% of the time as reasons for changing fields of study.

Respondents who were enrolled in formal postsecondary educational activities in October 1972 and who (a) were not enrolled in October 1973, or (b) indicated no field of study in October 1973, or (c) changed their field of study between October 1972 and 1973 were asked whether they had withdrawn from their October 1972 school before completing their program of study.[26] Forty-seven percent of the respondents indicated they had dropped out. This figure was inversely related to academic ability and SES, and males dropped out about 7% more frequently than females. Male graduates of the high school vocational curriculum had the highest dropout rate (60%). The most commonly cited reason for dropping out[27] was a desire for practical experience (29% of dropouts endorsed this reason), with financial difficulties, poor scholastic performance, and job offers in the second, third, and fourth positions with endorsement rates of 27%, 24%, and 21%, respectively. Other reasons given were cited by 20% or fewer of the dropouts.

Since graduation from high school, 10% of the Class has earned some form of educational certification (certificates, licenses, diplomas, etc.). This figure was highest for female vocational graduates (19%) and second highest for male vocational graduates (15%). The rates for general graduates (12%) and academic graduates (6%) were appreciably lower. Of course, the relatively high certification rates of vocational graduates are a reflection of the shorter training courses in which they engaged, and academic graduates, strongly involved in formal 4-year programs, accumulated greater numbers of postsecondary credit hours than did vocational graduates, despite their lower rates of certification.

2.5 The World of Work--Detail

It was indicated earlier that 65% of the Class of 1972 was employed, and that 8% reported themselves either on temporary layoff or looking for work at the time of the First Followup Survey. As in the case of education, this one-point-in-time assessment fails to disclose the range of economic activities of the Class during the current period.[28] The FFQ asked a number of questions regarding economic activities during the months of October 1972 and October 1973, and additionally asked several questions regarding the year between.

One such question asked respondents to indicate their attitudes regarding the importance of being able to find steady work. Responses to this item, displayed in Table 2.9,[29] suggest that being able to find

Table 2.9

Importance of Being Able to Find Steady Work

Subgroup	Index
Class of 1972	2.6
Males	2.7
Females	2.5
Blacks	2.8
Whites	2.6
Academic Ability	
Low	2.7
Middle	2.6
High	2.5
Socioeconomic Status	
Low	2.7
Middle	2.6
High	2.5
High School Curriculum x Sex	
Males	
General	2.7
Academic	2.7
Vocational	2.8
Females	
General	2.5
Academic	2.5
Vocational	2.5

Source: See Note 30.

steady employment is of greater value to blacks than to whites, to males than to females, to lower SES and academic ability respondents than to higher ones, and that vocational graduates tend to value the ability to find steady work more than do other graduates. The value of being able to find steady employment was greater for blacks than for whites, regardless of sex and curriculum but there was a race x curriculum x sex interaction--among black vocational respondents, women valued this ability more than men, while for all other racial and curricular subgroups men expressed higher values than women. The index was lowest for female academic graduates and for high academic ability respondents whose predilections, as we have seen, favored the formal educational world rather than the world of work.

Job-Seeking Methods

Those who sought employment made use of a variety of job-seeking methods, as indicated in Table 2.10. The most frequently employed methods were direct application to an employer (67% used this method and 78% of these found the method successful) and recourse to friends and relatives (57% used the method, 81% of whom found it successful). The two most frequently used methods were also the most frequently successful methods reported by the respondents. The total of the proportions of respondents indicating they had used each of the job-seeking methods is 241%, suggesting that the Class did not tend to rely upon one method to the exclusion of others. Separation of the Class by sex does not indicate that one sex is more prone to use more methods than is the other, but does disclose differences in the methods used. Females

Table 2.10

Methods of Job Seeking and Their Success Rates for Class of 1972

Method of Job Seeking	Percent Using	Percent Success
High School Employment Service	9%	41%
Other School or College Employment Service	12	52
Professional Periodicals or Organizations	6	23
Civil Service Applications	11	23
Public Employment Service	22	30
Private Employment Service	10	35
Community Action or Welfare Groups	4	28
Newspaper Advertisements	38	38
Direct Application to Employers	67	78
Registration with a Union	5	56
Friends or Relatives	57	81

Source: See Note 31.

were 9% less likely than males to resort to friends and relatives, and were 8% less likely to be successful when they did so. Females were as likely to try direct application to employers as were males, but were 6% less likely to succeed. Alternatively, females were somewhat more likely than males to make use of high school and college placement services, professional periodicals and organizations, civil service applications, public and private employment organizations, community action or welfare organizations, and newspaper advertisements (11% more likely for females than for males), and in each case tended to experience roughly equal success rates as males, or to fare slightly better.

Blacks were much more active than whites in making use of a variety of job-seeking methods. The total of all proportions using the various methods for blacks was 3.13, compared to 2.32 for whites; however, the success rates were worse in every category for blacks, excepting only community action or welfare organizations where blacks experienced a 29% success rate compared to 28% for whites (insignificant difference). In many methods, blacks fared markedly worse than whites. Friends and relatives were 21% more effective for whites than blacks; union registrations, 27%; direct application to employers, 21%; newspaper advertisements, 13%; and private employment agencies, 16%. Two explanations seem capable of resolving the greater difficulties faced by blacks in gaining employment through friends and relatives: first, that the employment market was tighter for blacks than for whites, hence fewer jobs were known to friends and relatives of blacks; second, that the historically segregated marketplace has left friends and relatives of blacks less capable of locating or securing jobs for the respondents. For the inabilities of blacks in securing employment through the other methods we can find no ready explanation other than a persistence of racial discrimination, especially since (a) the two governmentally controlled methods (civil service and public employment agencies) produce similar success rates for blacks and whites, (b) job-seeking success rates do not seem to vary by SES for either blacks or whites, and (c) success rates do not vary for whites according to academic ability, but do vary for blacks (see Table 2.11 regarding direct application to employers). Similar results were found for the success rates of blacks and whites, classified by SES and ability, for the private employment service method of job seeking (high ability blacks were more than twice as likely to be successful as low- and

Table 2.11

Rates of Usage and Success of Direct Application to Employers by Race, Academic Ability, and SES

	Usage Rate		Success Rate	
	Blacks	Whites	Blacks	Whites
Academic Ability				
Low	60%	65%	61%	77%
Middle	61	66	62	82
High	65	72	93	80
Socioeconomic Status				
Low	61	69	59	77
Middle	61	67	59	81
High	62	68	61	82

Source: See Note 32.

middle-ability blacks, compared to whites, who showed no success rate variation at all). It would thus appear that employability is constrained for all but the few high-ability blacks, but not for whites. This effect has been observed by others.

> Our results indicate. . .that mental ability has both direct and indirect effects on the early success of young black women, but only an indirect impact for their white counterparts. We have suggested that finding a significant direct effect of ability for blacks but not for whites may be evidence of racial discrimination in the labor marked--i.e., the "creaming" of only the most able blacks.[33]

Extended Layoff and Unemployment

Nearly one-fifth of the Class (18%) indicated spending more than four weeks on layoff, or seeking employment, during the year between October 1972 and October 1973. This figure reached 29% for blacks, compared to 16% for whites and showed a declining incidence with increasing academic ability and SES. For low ability respondents the incidence rate was 22%, compared with 13% for high ability respondents; for low and high SES respondents the rates were 23% and 12%, respectively. Graduates from the academic high school curriculum experienced the lowest incidence of out-of-work status (14%, compared to 21% for general and 20% for vocational graduates), a reflection of the fact that fewer academic graduates were in the labor market compared to graduates of other curricula.

Underemployment, defined here by the need to occupy more than one job in order to make an acceptable wage, was measured by asking respondents who were employed in either October 1972 or October 1973 to indicate whether they were simultaneously working for more than one employer. In October 1972, 8% of the employed respondents provided an affirmative answer.[34] Underemployment did not seem to vary across the primary subgroups of the population.

Job Changing

Nineteen percent of the Class indicated they had worked for more than two employers[35] in the 52-week period from October 1972 to October 1973. In view of the greater value placed on steady employment, and in view of the greater difficulty in securing employment by blacks relative to whites, it was not surprising to observe that 15% of the blacks, but 20% of the whites had more than two employers during the period. Males (22% with 3+ employers) were also more likely to change jobs than females (17% with 3+ employers). The proportions of the Class having more than two employers did not vary by ability, SES, or high school curriculum. Table 2.12 provides the percentages of the sample subgroups who changed employers at least once, i.e., had two or more employers during the period. The fact that job changing seems somewhat less frequent for blacks than for whites is in disagreement with results found by others. Kohen and Parnes,[37] at two different points in time, found job changing more frequently among blacks than

Table 2.12

Changes in Employers

Subgroup	Percent with Two or More Employers October 1972-October 1973
Class of 1972	48%
Males	51
Females	46
Blacks	42
Whites	49
Academic Ability	
Low	47
Middle	50
High	49
Socioeconomic Status	
Low	47
Middle	49
High	49
High School Curriculum x Sex	
Males	
General	53
Academic	50
Vocational	52
Females	
General	44
Academic	46
Vocational	46

Source: See Note 36.

whites, and Flanagan[38] indicated, "Young blacks do record a somewhat higher mean number of job changes, but this reflects a higher number of layoffs rather than voluntary quits." Our data do not distinguish voluntary and involuntary job separation but should include both forms. We have no explanation for the discrepancy between our results and those of other authors, except to indicate that the unsettled economic conditions which prevailed during the current period may have reduced the normal amount of job changing among blacks, but such an argument is, at best, somewhat solipsistic. On the other hand, Roderick and Davis report results in agreement with our finding of higher job changing among males relative to females:

> Approximately one-third of the young women who were employed at the time of both the 1968 and 1969 survey made at least one inter-firm move during the period, either voluntarily or involuntarily. . . .This represents considerably less mobility than occurred among young men of the same ages in the one-year period 1966-1967.[39]

Duration of Employment

The cumulative distribution of weeks worked during the year between October 1972 and 1973 is presented in Table 2.13. Patterns for subgroups of the Class about this pattern were appreciable. The deviations are suggested by Table 2.14, which presents the median weeks worked for the subgroups of interest to the current study. In terms of averages, the number of weeks worked by vocational graduates exceeded that of general graduates who, in turn, exceeded that of academic graduates. This was true regardless of sex and race ($p < .01$). Within the two nonacademic curriculum groups, the number of weeks of labor supplied was greater for whites than for blacks, regardless of sex, and, for any given race x curriculum subgroup, males contributed more weeks of labor than did females ($p < .01$). In the case of academic graduates, although the number of weeks of employment for males exceeded that of females, the difference was small, if significant.[42]

Table 2.13

Cumulative Distribution of Weeks Worked, October 1972-October 1973, by the Class of 1973

Number of Weeks	Proportion of Class Working Less Than Number of Weeks
0	.000
4	.094
8	.126
12	.184
16	.280
20	.328
24	.371
30	.428
36	.487
40	.519
44	.583
48	.643
∞	1.000

Source: See Note 40.

The Effect of Job-Specific Training in High School

The perception of whether high school training was job specific is likely to be sex dependent since large numbers of young people receive training in such skills as typing regardless of the occupations they perceive to be important. Thus, a college-bound male may find typing skills mandatory to his college endeavors, since he expects to be required to type large numbers of papers in college, even though typing skills, per se, are not perceived to be a job-related capability.

Table 2.14

Median Weeks Worked, October 1972-October 1973

Subgroup	Median Weeks Worked
Class of 1972	37.1
Males	41.7
Females	31.5
Blacks	27.6
Whites	38.5
Academic Ability	
Low	42.2
Middle	40.3
High	24.7
Socioeconomic Status	
Low	41.1
Middle	41.1
High	21.7
High School Curriculum	
General	40.5
Academic	24.8
Vocational	47.0
High School Curriculum x Sex	
Males	
General	45.1
Academic	28.8
Vocational	47.8
Females	
General	31.6
Academic	21.6
Vocational	44.5

Source: See Note 41.

For a secretarially-oriented secondary school female, on the other hand, such skills may be perceived as directly related to later job requirements. While Table 2.15 indicates that 17% more females than males reported having received job-specific training in high school, it is possible that a sex response bias exists in the reporting patterns presented. Neglecting the possible presence of such response-bias

Table 2.15

Percentage of Respondents Indicating They Had Received Job-Specific Training in High School

Subgroup	Percent Indicating Receipt of Job-Specific Training in High School
Class of 1972	29%
Males	20
Females	37
Blacks	35
Whites	28
Academic Ability	
Low	37
Middle	30
High	15
Socioeconomic Status	
Low	39
Middle	30
High	15
High School Curriculum	
General	25
Academic	12
Vocational	64
High School Curriculum x Sex	
Males	
General	19
Academic	8
Vocational	51
Females	
General	31
Academic	17
Vocational	72

Source: See Note 43.

patterns, it appears that more females than males, more blacks than whites, and markedly more vocational students than others have received job-specific training during high school. In the nonacademic curricula, female vocational graduates were more likely to indicate having received such training, and male general graduates less likely, than was true of other groups ($p < .001$). Across the curricula, vocational students were much more likely to indicate they had received job-specific training ($p < .001$).[44]

Those who had received such specialized training were further asked whether they had had an opportunity to exercise those skills on the job. The results of this question are given in Table 2.16. Respondents who were female, or black, or of high academic ability or SES, or who had earlier vocational high school curricula tended to say, "yes." This is a particularly interesting pattern of response since it indicates that, even among those who received job-specific training, those who were most advantaged (by SES) or most gifted (by academic ability) were those most likely to find themselves in a position to make use of the training they had earlier experienced. Vocational graduates consist of relatively high proportions of low SES and minority members, and although they were more likely than most to have received job-specific training, they were proportionally less likely, relative to the rates of receiving such training, to have been able to secure jobs using the special training they had experienced.

About 71% of those who had received job-specific training, and who had an opportunity to use the training on the job indicated that they had been able to apply to the job most of what they had been

Table 2.16

Of Those Receiving Job-Specific Training, the Percentages Indicating They Had Made Use of Such Training

Subgroup	Percent Making Use of Training
Class of 1972	60%
Males	53
Females	64
Blacks	48
Whites	62
Academic Ability	
Low	54
Middle	62
High	62
Socioeconomic Status	
Low	54
Middle	63
High	63
High School Curriculum	
General	53
Academic	59
Vocational	64
High School Curriculum x Sex	
Males	
General	52
Academic	50
Vocational	55
Females	
General	54
Academic	64
Vocational	68

Source: See Note 45.

taught (Table 2.17). Females (73%) were more likely to express this view than males (68%), but there was no appreciable variation by race.

Table 2.17

Perceived Applicability of Job-Specific High School Training

Statement	Percent Endorsing the Statement
I have been able to apply almost everything I learned in my high school training	71%
I have been able to apply the basic principles of my training, although some things are different	86
I would have liked more experience in my training before I started	42
I received training different from the way it is done on the job	32
I found my high school training useful in on-the-job training programs	61
I was trained with tools or equipment that are not used on the job	20
I could have gotten my job without the training	32
I took course work associated with my training which was not helpful in performing my job	19
I would have liked more information about what was expected in the job beyond skills training	34
I would have liked other types of experience or information to be included in the training	26
I consider myself doing as well as others with similar training	88
I consider the training a wise choice.	87

Source: See Note 46.

The rate of endorsement did vary by high school curriculum, with vocational graduates (70% for males, 76% for females) most likely to indicate they had been able to apply almost everything they had been taught. Graduates of the other curricula were somewhat lower. Among males, the rate for general graduates was 65%, that for academic graduates 68%; among females, the rate for general graduates was 71%, while that for academic graduates was 69%.

While 86% of those who were able to apply their job-specific skills indicated they had been able to apply the basic principles of their training, although some things were different, whites were 6% more likely than blacks to express this view. The endorsement rate did not vary appreciably over the subgroups of the population beyond this effect, excepting only that female vocational graduates (89%) endorsed the statement at an appreciably higher rate than female academic graduates (83%).

On the whole, 42% indicated they would have liked more experience in their training before attempting to apply their skills on the job. This sentiment was much more likely to have been expressed by males (49%) than females (38%), and more likely expressed by blacks (50%) than whites (40%). Graduates of the vocational curriculum (47% of the males and 35% of the females) were least likely to feel the need for additional experience, with graduates of the other curricula about 4% and 7% (respectively, for males and females) more likely to feel they would have liked additional experience prior to starting work.[47]

Males were 10% more likely than females to indicate that they had received training different from the way things were done on the job, and blacks were 5% more likely than whites to express the same opinion. There was little variation by curriculum except for male academic graduates who, with an endorsement rate of 35%, were about 5% less likely than other males to indicate that their training had been different from the way things were done on the job.

As Table 2.17 indicates, about 61% of those who had been able to apply their job-specific skills on the job indicated they found the training useful in on-the-job training programs. While this proportion did not vary by sex, there was appreciable variation among curricular subgroups, especially for males. Male academics (53%) were least likely to indicate that their earlier training had been helpful in on-the-job training, compared to 61% for general graduates and 65% for vocational graduates. The same pattern was found for females, but the difference between general and academic graduates was inappreciable. The rate of endorsement by female vocational graduates was about nine percentage points higher than for the other two groups.

Only about one-fifth of these respondents indicated that they had been trained with tools or equipment that was not used on the job. Males and blacks were about 6% more likely to express this view than their opposite groups, and curricular variation was dramatic. Male graduates of the general curriculum (31%) were 13% more likely than male academics, and 7% more likely than male vocationals, to express this view. Among females the same pattern persisted, but variation was not so severe: the rates were 12% for academics, 17% for generals, and 20% for vocationals.

As anticipated, graduates of the high school academic curriculum were most likely to indicate they could have gotten their job without earlier job-specific training. Forty-nine percent of the male academic graduates expressed this opinion. The corresponding rate for academic females was 29%, and was inappreciably different from that of female general graduates. For both sexes, vocational graduates were 6% less likely to indicate that they could have gotten their jobs without their earlier high school training than were academic graduates. There was a strong sex effect in this attitude. Forty-five percent of the males, compared to 26% of the females, indicated that their earlier training had been of little benefit.

Twenty-three percent of the males, but only 18% of the females indicated that their high school training had contained course work which was not useful on the job. Endorsement rates for blacks and whites were similar (23% and 19%, respectively). There was little curricular variation among females, but among males, general graduates (26%) were 6% more likely than academic graduates, and 3% more likely than vocational graduates, to endorse the item.

Just over a third of those who had been able to apply their job-specific training on the job indicated they would have benefited by more information regarding what was expected on the job beyond the particular skills needed. Males (39%) were about 7% more likely than females to express this opinion. Blacks were 12% more likely than whites, representing the greatest variation observed over the subgroups of interest. Variation among curricular subgroups was small, especially for females, where a maximum difference of 3% was observed between vocational and general graduates. Variation among curricula for males was but slightly larger, from 36% for general graduates to 40% for vocational graduates. The patterns of response for subgroups indicating they would have liked to have additional types of experience or information to be included in their high school training was similar to that just described, except that the overall rate of endorsement (26%) was somewhat lower, and that vocational graduates were slightly less likely than others to want other experience or information.

Only 12% of those who had been able to apply job-specific training on the job indicated that they felt they were not doing as well as others with similar training. Nineteen percent of the male general graduates held this view, but all other subgroups were within 3% of the overall rate. Respondents who indicated that their training had not been a wise choice represented 13% of the total, and blacks, at 18%, were most likely to have this opinion. All other subgroups were within 4% of the overall rate.

About 16% of those who had received job-specific training in high school tried to find jobs in which they could make use of their training, but were unsuccessful. Several questions were asked of such respondents regarding their experiences in trying to find work. Summary results for the group are displayed in Table 2.18. Lack of experience was most frequently cited as the reason for not gaining employment, closely followed by lack of job openings in the respondent's area of training. Lack of training in the tools or equipment used in the job was cited infrequently (7% of the respondents).

Table 2.18

Experiences in Trying to Find Work Using Job-Specific Skills

Statement	Percent Endorsing Statement
I did not find many job openings in that type of work	36%
I was told I was not qualified	20
I did not know how to use the equipment or tools of the job	7
I was not offered enough pay	20
I did not have enough experience	41
I decided to enter a different line of work	26
I did not have the course work or knowledge required of the job	14
I was offered a job related to my training but did not take it	10

Source: See Note 48.

Lack of job openings were expressed by 42% of the males, compared to 34% of the females, and by 43% of the blacks, compared to 35% of the whites. Variation among males by curriculum was inappreciable, but among females, graduates of the general curriculum were most likely to indicate they had found no job openings (40%). The rate for vocational females (33%) was 5% higher than that of academic females.

Lack of qualifications were more frequently encountered by blacks (26%) than by whites (19%), but for the remaining subgroups variation was small. Lack of knowledge regarding the use of tools or equipment did not vary appreciably over the subgroups of interest.

Males, especially academic and vocational graduates, indicated that they had not been offered enough pay for the job at rates about 4% above average. The difference between blacks and whites was 6%, the greatest variation observed over the subgroups of the population, with 25% of the blacks indicating that they had been offered unacceptable wage rates.

Lack of experience was cited by more females than males, and by more whites than by blacks, but variation across the subgroups of interest was small, generally not more than 4% from the average; male academic graduates (36% endorsed the item) were least likely to indicate that they had missed jobs using their skills through lack of experience.

While just over a quarter of those who had difficulty finding jobs which would use their job-specific training indicated they had decided to change their fields of endeavor, the figure for males was 11% higher than for females, and that for blacks was 7% higher than for whites. Among males, the rate for general graduates was 37%; for academic graduates, 29%; for vocational graduates, 34%. For females, the rates were 28%, 28%, and 19% for the general, academic, and vocational graduates, respectively.

Not having the course work or knowledge required of the job was cited by 14% of the group. This figure varied not more than 3% over the subgroups of interest, excepting only male general (19% endorsement) and male academic (18% endorsement) graduates.

No relationship was observed between the subgroups of the population and the rate of endorsement of an item indicating that respondents had been offered a job related to their training which they had refused. Maximum variation about the average rate of 10% was 3% or less in all cases.

Job Satisfaction

Respondents who were employed in October 1973 were asked to indicate satisfaction with their jobs by responding to seven items in the FFQ. The scaled responses[49] are presented in Table 2.19.[50] A scale value of +2.00 would indicate that 100% of the respondents within a particular subgroup felt "very satisfied" and a scale value of -2.00 would indicate "very dissatisfied." As can be seen in Table 2.19, the degree of satisfaction tended to be very mildly positive. As may be surmised from the near zero scale values, responses to these items were characterized by great variation with large proportions of all subgroups endorsing the four Likert scale positions provided by the items. Uniformly, item-by-item assessments failed to produce significant and appreciable differences among subgroups.[51] Despite the failing of formal significance, the results seem reasonable in many cases. The greater satisfaction of females with working conditions could easily be a result of the office environment in which many were employed, compared to males who may have experienced coarser working conditions. Blacks, it will be noticed, in every scale, were less satisfied than whites, an effect which has been observed by others.[52] Overall, graduates of the vocational curriculum seemed more satisfied with their jobs than did graduates of other curricula.

Table 2.19

Indices of Job Satisfaction

Subgroup	Pay and Fringe	Importance and Challenge	Working Conditions	Opport. for Pro. and Adv. (Employer)
October 1973 Job Holders	.49	.46	.79	.21
Males	.53	.45	.69	.26
Females	.45	.47	.89	.15
Blacks	.30	.43	.61	.09
Whites	.50	.46	.81	.22
Curriculum x Sex				
Males				
General	.51	.44	.62	.25
Academic	.52	.38	.76	.24
Vocational	.59	.58	.68	.32
Females				
General	.42	.46	.85	.15
Academic	.41	.27	.88	.03
Vocational	.53	.70	.94	.29

Subgroup	Opport. for Pro. and Adv. (Occupation)	Security and Permanance	Opp. to Develop Skill	Job as Whole
October 1972 Job Holders	.25	.59	.40	.72
Males	.29	.51	.41	.69
Females	.20	.69	.40	.77
Blacks	.15	.41	.39	.53
Whites	.26	.62	.40	.75
Curriculum x Sex				
Males				
General	.31	.47	.42	.64
Academic	.19	.47	.30	.70
Vocational	.42	.63	.56	.74
Females				
General	.16	.66	.39	.76
Academic	.05	.54	.20	.67
Vocational	.41	.86	.61	.87

Source: See Note 50.

Changes in Economic Activity, October 1972-October 1973

Employment Rates

The percentages of the Class of 1972 which were employed in October 1972 and October 1973 are shown[53] in Table 2.20. The term "employment percentage" will be used to distinguish these figures from employment rates, since the latter requires knowledge of the size of the labor force.

Table 2.20

Employment in October 1972 and October 1973

Subgroup	Percent Employed October 1972	Percent Employed October 1973	Percent Change
Class of 1972	57%	64%	+7%
Males	61	67	+6
Females	52	61	+9
Blacks	49	57	+8
Whites	57	65	+8
Academic Ability			
Low	64	70	+6
Middle	60	67	+7
High	44	55	+11
Socioeconomic Status			
Low	62	68	+6
Middle	62	68	+6
High	41	52	+11
High School Curriculum x Sex			
Males			
General	69	74	+5
Academic	49	56	+7
Vocational	76	81	+5
Females			
General	54	61	+7
Academic	40	54	+14
Vocational	64	72	+8

Source: See Note 54.

The employment percentage, for the entire Class of 1972 increased seven percentage points over the one-year period from October 1972 to October 1973.

The change was greater for females (+9%) than for males (+6%) reflecting the completion of postsecondary training by higher proportions of females than males, and subsequent entry into the ranks of the employed. The greatest changes in employment percentages are to be found, as one would expect, in the high ability, high SES, academic female components of the population. The proportions of vocational graduates who were employed was highest of all subgroups in both years, reaching 81% for males in October 1973.

For those who were unemployed during October 1972 and October 1973 (Table 2.21) only one-fifth were seeking employment. If this percentage is applied to the figures of Table 2.20, 7% (20% of the 36% who were not employed in October 1973)can be added to the employment percentage to produce an estimated labor force participation rate of 71% and an estimated unemployment rate of 10% for October 1973. Similar procedures give rise to an estimated labor force participation rate of 66%, and to an estimated unemployment rate of 13% for October 1972. These results are sufficiently similar to the rates presented in Tables 1.7 and 1.10-1.12 (q.v.) to warrant extending the analysis to the subgroups of the population. The findings are displayed in Table 2.22. As anticipated on the basis of earlier discussions, labor force participation rates declined with increasing academic ability and SES, and were lower for academic graduates than for others in both October 1972 and October 1973. During both periods, unemployment rates

Table 2.21

Job Seeking Among the Unemployed, October 1972 and October 1973

Subgroup	Percent Seeking Employment in October 1972	Percent Seeking Employment in October 1973	Percent Change
All Unemployed Class Members	20%	20%	--
Males	18	18	--
Females	22	22	--
Blacks	38	37	--
Whites	17	17	--
Academic Ability			
Low	33	31	-2%
Middle	20	20	--
High	12	14	+2
Socioeconomic Status			
Low	34	28	-6
Middle	20	21	+1
High	11	13	+2
High School Curriculum x Sex			
Males			
General	28	24	-4
Academic	10	13	+3
Vocational	34	27	-7
Females			
General	24	24	--
Academic	16	18	+2
Vocational	33	28	-5

Source: See Note 55.

Table 2.22

Estimated Labor Force Participation Rates and Unemployment Rates
October 1972 and October 1973

Subgroup	Labor Force Part. Rate Oct. 1972	Unemployment Rate Oct. 1972	Labor Force Part. Rate Oct. 1973	Unemployment Rate Oct. 1973	Percent Change	
					Part. Rate	Unemp. Rate
Class of 1972	66%	13%	71%	10%	+5%	-3%
Males	68	10	73	8	+5	-2
Females	63	17	70	12	+7	-5
Blacks	68	28	73	22	+5	-6
Whites	64	11	71	8	+7	-3
Academic Ability						
Low	76	16	79	12	+3	-4
Middle	68	12	74	9	+6	-3
High	51	13	61	10	+10	-3
Socioeconomic Status						
Low	75	17	77	12	+2	-5
Middle	70	11	75	9	+5	-2
High	47	14	58	11	+11	-3
High School Curriculum x Sex						
Males						
General	78	11	80	8	+2	-3
Academic	54	9	62	9	+8	--
Vocational	84	10	86	6	+2	-4
Females						
General	65	17	70	13	+5	-4
Academic	50	19	62	13	+12	-6
Vocational	76	16	80	10	+4	-6

were higher for females and blacks than for males and whites, respectively. While the overall unemployment rate declined mildly by 3%, there were modestly larger gains in employment for those sectors of the population which had been most seriously affected.

Reasons for Not Working

Those who were not employed during October 1972 and October 1973 were asked to indicate which of a variety of reasons for not working applied to them. The most frequently provided reason in both years was school attendance, endorsed by 75% of the nonworkers in October 1972 and by 66% in October 1973. Substantial proportions also indicated that they did not wish to work (36% and 31% for 1971 and 1972, respectively). These two reasons followed the labor force participation rate pattern of Table 2.22. A small percentage (2% and 6%) in each year indicated they were on layoff (12% and 11% of male vocational and female vocational graduates in 1973) which reflected the increasing size of the labor force. Lack of jobs was cited by about 20% of the nonworkers during each year; the pattern of response was highly similar to the unemployment rate figures of Table 2.22, with subgroups citing lack of jobs at roughly twice the unemployment rate. As expected, homemaking activities, family responsibilities, and child-care problems were seldom cited by men, but were frequently cited by women as reasons for not working. Of those not working, one-third of the female general graduates and half of the female vocational graduates indicated homemaking as a reason for not working; 19% and 29%, respectively, indicated other family responsibilities; and 6% and 9% indicated child-care problems.

Jobs which required experience which the respondent did not possess, unsuitable jobs which lacked career development opportunities, and jobs for which the respondents were educationally unqualified were cited with frequencies between 6% and 10% of those who were not working, but the figures were higher (up to about 15%) for low ability, low SES, general, and vocational graduates.

Characteristics of Jobs

About 86% of those employed in October 1973 were employed in the private sector, with 12% employed by governmental agencies. Private employment in October 1973 was down three percentage points from a year earlier, and government employment up by the same percentage. The distribution of the subgroups of the population into these two categories produced nearly identical (plus or minus four percentage points) rates, except for blacks. Only 75% of the employed blacks in October 1973 were employed in the private sector, and fully 24% were employed by government. Self-employment and nonwage employment combined to represent 3% or less of the Class of 1972 in both years.

A third of the Class of 1972 who were employed in both October 1972 and October 1973 had made at least one change in employer. These changes did not result in appreciable modification of the distribution of job descriptions into which employed Class members were classified. Only six classifications accounted for 5% or more of the employed Class members in either year: salesman (9%); clerical (30%); craftsman (14%); operator (13%); labor (9%); and service occupations (15%)--percentages are for October 1973. Labor and craftsman occupations were represented only by males while the remaining categories were represented by both sexes.

Table 2.23

Occupational Classifications Accounting for at Least Five Percent of Employed Class Members (October 1973)

Subgroup	Salesman	Clerical	Craftsman	Operator	Labor	Service
Employed Class Members	9%	30%	14%	13%	9%	15%
Males	7	11	23	16	15	11
Females	11	49		8		20
Blacks		33	12	18	8	17
Whites	9	30	15	11	9	15
Academic Ability						
Low	6	24	14	19	11	15
Middle	9	32	14	11	9	14
High	10	31	15	7	7	18
Socioeconomic Status						
Low	6	28	13	18	11	15
Middle	9	32	15	11	8	14
High	12	27	15	7	8	19
High School Curriculum x Sex						
Males						
General	5	9	24	18	17	11
Academic	10	16	20	11	13	14
Vocational		8	27	22	16	7
Females						
General	11	42		12		22
Academic	14	44	7			22
Vocational	8	61		8		15

Note: Percentages less than 5 are not shown.

Source: See Note 56.

As can be seen in Table 2.23, females were strongly concentrated in the clerical and service areas[57] while males were not so severely constrained. Apart from the small proportion of blacks in the salesman classification, the distributions across classifications by race were quite similar. Since there appeared to be a preference for high ability and high SES respondents in the salesman category, since Table 2.23 reflects the percent distribution of employed Class members into occupational categories, and since we earlier noted (Table 2.11) a "creaming" of the most able blacks into the employment market, it appears that salesman represents a very inaccessible occupational classification for blacks.

Weekly Hours of Labor Supplied

The number of hours of labor supplied per week by employed Class members was generally in excess of 31 hours per week. The percentages of employed Class members who supplied 32 or more hours of labor per week are given in Table 2.24. These results are not remarkable since they follow the pattern of labor force participation and employment already discussed.

Table 2.24

Percentages of Employed Subgroups Supplying Thirty-Two or More Hours of Labor per Week, October 1972 and October 1973

Subgroup	Percent for October 1972	Percent for October 1973
Employed Class Members	62%	70%
Males	64	73
Females	59	67
Blacks	64	69
Whites	61	70
High School Curriculum x Sex		
Males		
General	74	82
Academic	44	54
Vocational	79	88
Females		
General	64	74
Academic	36	47
Vocational	74	82

Source: See Note 58.

Weekly Earnings

Median weekly earnings are displayed in Table 2.25 for selected subgroups of Class members who were employed in October 1972 and October 1973. Cumulative distributions of weekly earnings are displayed in the ogives of Figures 2.6-2.9. It is noteworthy that the median incomes and income distributions of blacks and whites do not differ appreciably in either October 1972 or October 1973; however, it must be recalled that the most able blacks are disproportionately represented in these employment statistics so that, while equal wage rates seem superficially reasonable, they would likely vary markedly if

Table 2.25

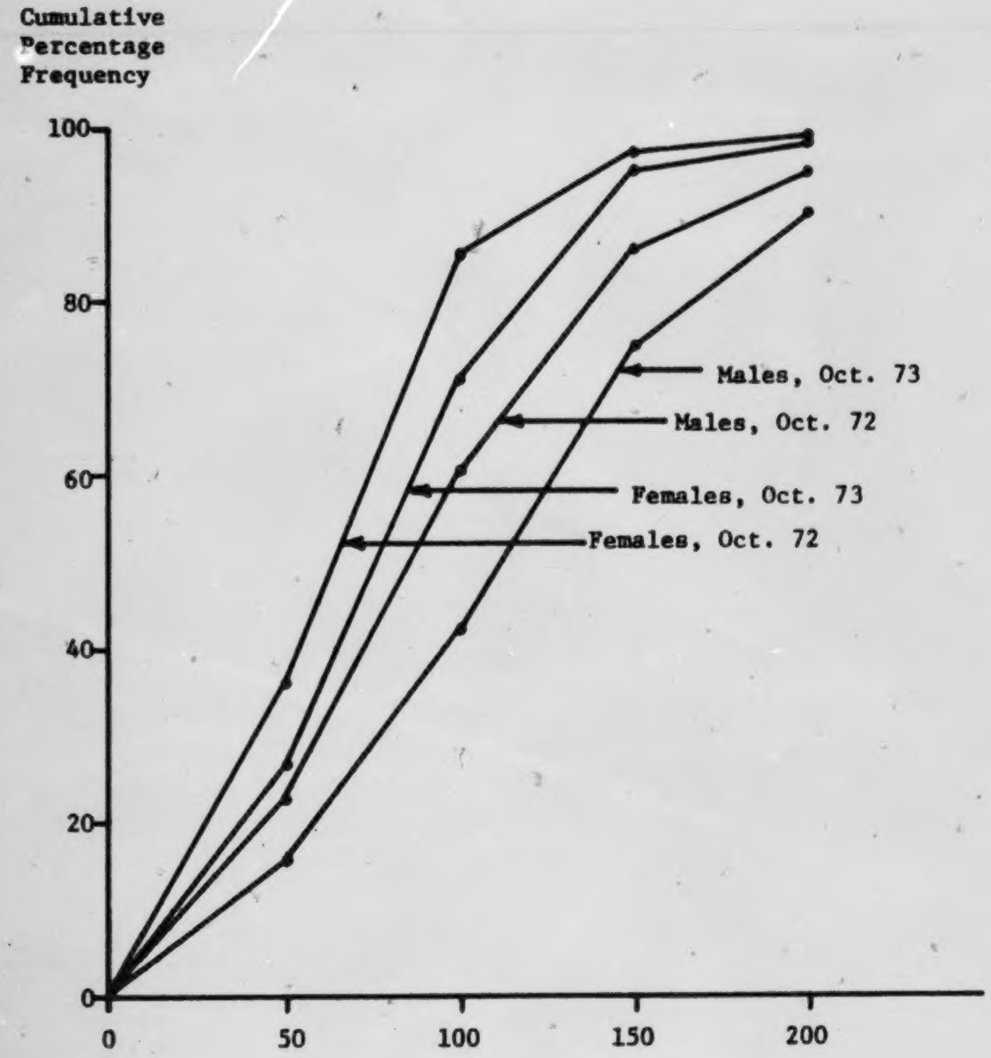
Median Weekly Earnings for October 1972 and October 1973

Subgroup	Median Earnings October 1972	Median Earnings October 1973	Amount of Increase	Percent Increase
Employed Class Members	$74	$91	$17	23%
Males	86	111	25	29
Females	64	76	12	19
Blacks	75	89	14	19
Whites	74	89	15	20
High School Curriculum x Sex				
Males				
General	95	121	26	27
Academic	66	86	20	30
Vocational	98	126	28	29
Females				
General	66	78	12	18
Academic	44	58	14	32
Vocational	74	89	15	20

Source: See Note 59.

Figure 2.6

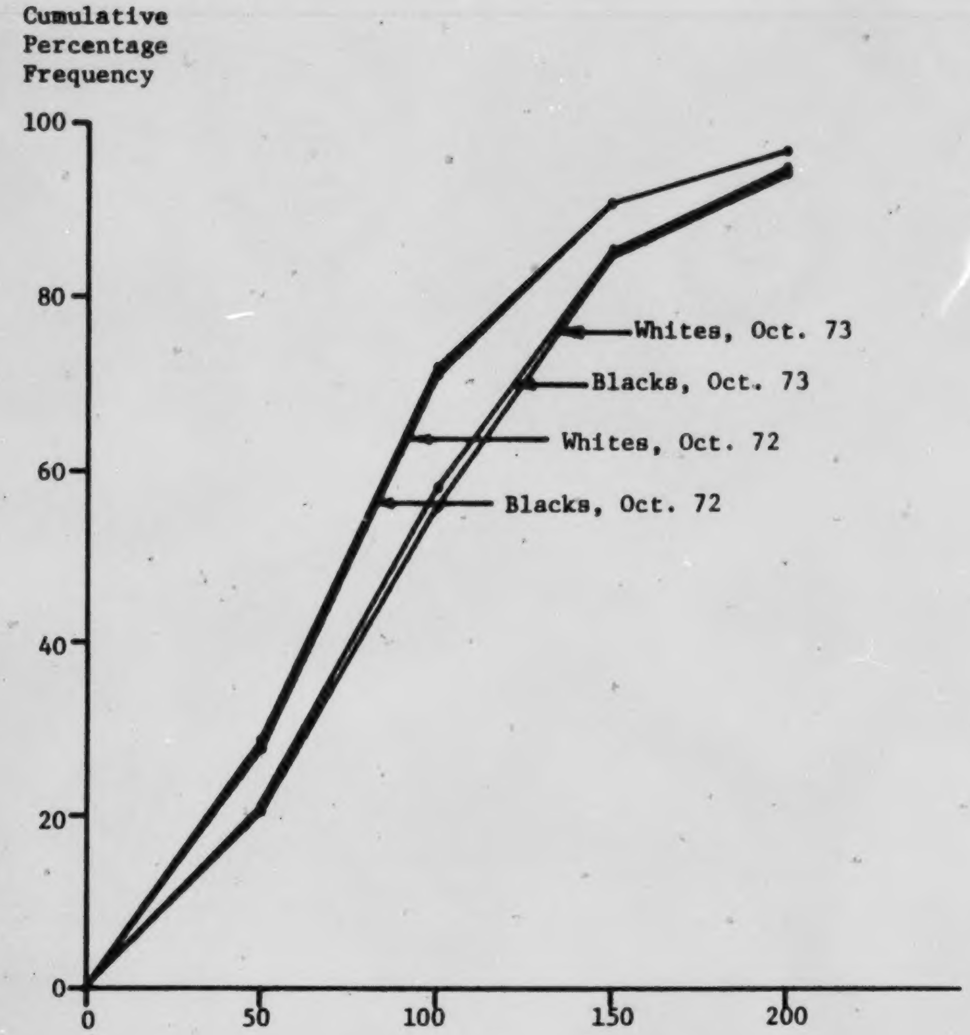
Cumulative Distributions of Weekly Income, October 1972 and October 1973, by Sex



Source: See Note 59.

Figure 2.7

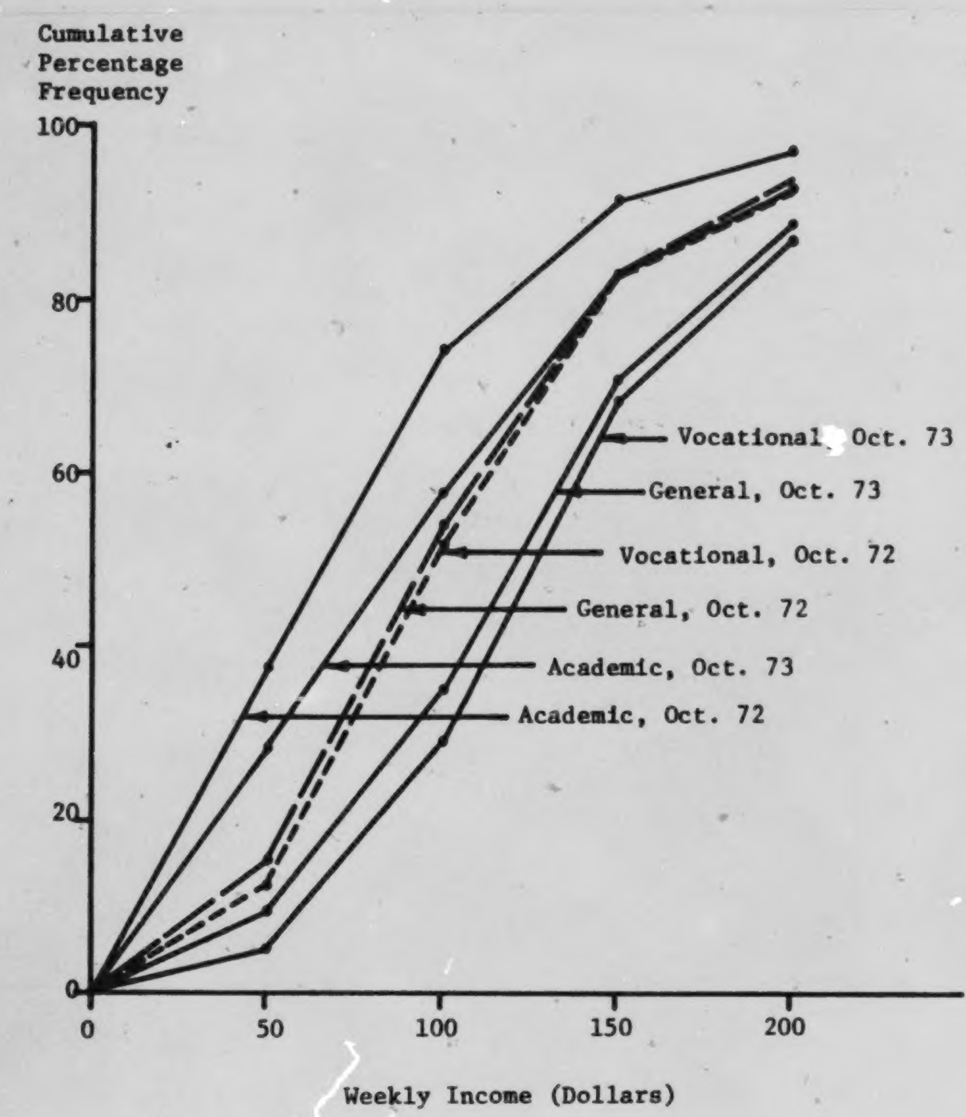
Cumulative Distributions of Weekly Income, October 1972 and October 1973, by Race



Source: See Note 59.

Figure 2.8

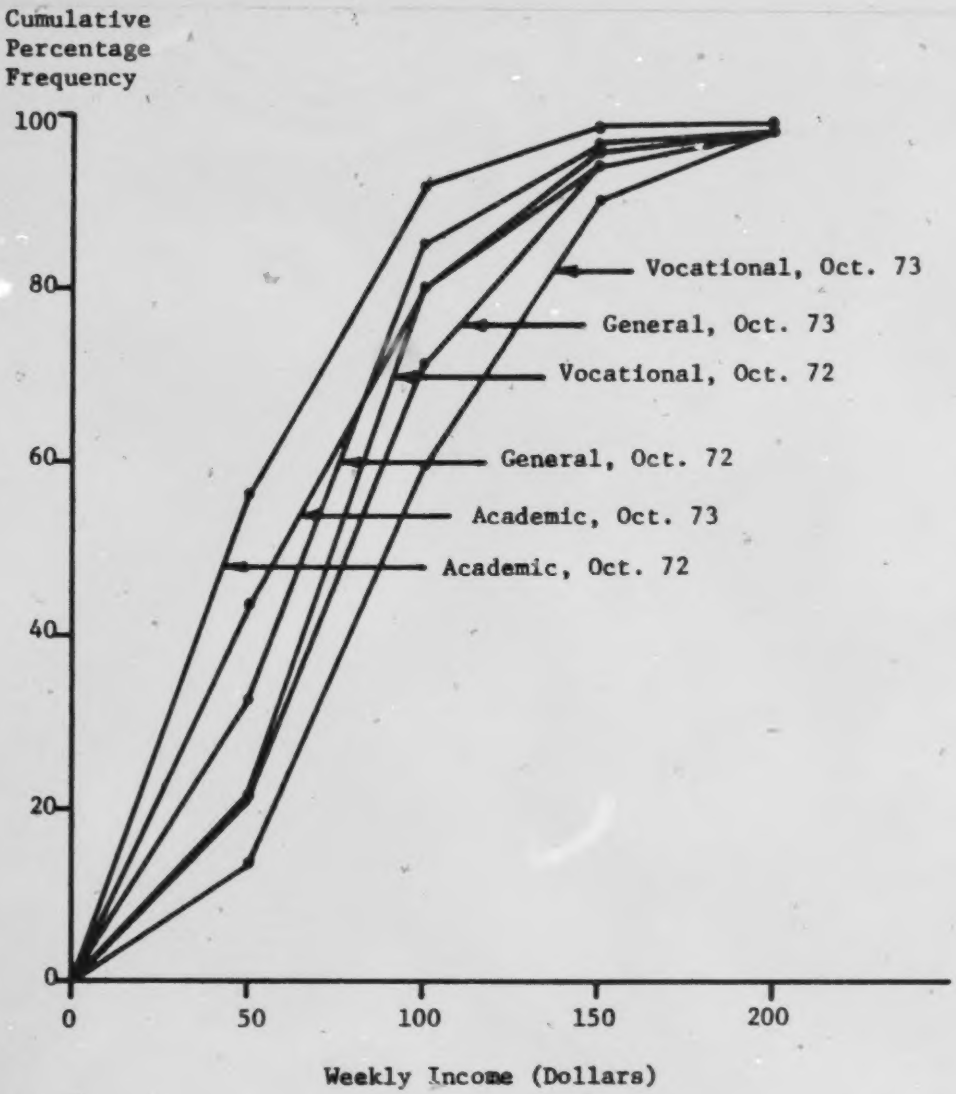
Cumulative Distributions of Weekly Income, October 1972 and October 1973, by High School Curriculum (Males Only)



Source: See Note 59.

Figure 2.9

Cumulative Distributions of Weekly Income, October 1972 and October 1973, by High School Curriculum (Females Only)



Source: See Note 59.

low- and middle-ability blacks were employed at the same rates as low- and middle-ability whites.

In Figure 2.3 it was shown that, while racial annual incomes did not vary appreciably, there were large differences between the incomes of males and females. Weekly earnings (Figures 2.6 and 2.7) display the same effect. Moreover, it appears that the increase in earnings of females over the one-year period October 1972 to October 1973 was only two-thirds that of males. Between 1972 and 1973 the Consumer Price Index increased 6%, and over the next year, 11% (Table 1.4). In light of the rate of inflation, it seems that the Class of 1972 fared rather well. However, since the median estimated 1973 income for members of the Class was under $3,000 it cannot be assumed that the standard of living permitted freedom from financial concerns.

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1. Center for Educational Research and Evaluation, Tabular Results of the First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C. 27709, July 1975, Tables 1-6.

2. Center for Educational Research and Evaluation, Tabular Results of the First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C. 27709, July 1975, Tables 1-6.

3. These data should reflect status as of the period of the First Follow-Up Survey; namely, October 1973 - January 1974. Owing to differences in item structure and decision rules applied to such items, First Folluw-Up data regarding labor force participation rates are not strictly comparable to those published by the Bureau of Labor Statistics.

4. A number of significance tests will be reported merely by providing the p-value resulting from the test, e.g., "($p < .002$)". Frequently, these tests were conducted by a computer screening of FFQ items as responded to by two or more subgroups of the sample.

   In the case of categorical data, the test was conducted as a chi-square test for equivalent proportions across the sample subgroups. In the case of continuous variables, the test was conducted by the analysis of variance.

   Of course, the NLS sample is quite large, which allows the statistical detection of quite small differences between subgroups. To avoid the burdensome reporting of numerous miniscule effects two requirements were added to the screening program: first, that the effect under test should be significant at the .05 level or better; second, that the magnitude of the effect (as measured by the squared multiple correlation between the dependent variable and the dummy group membership variables in the analysis of variance, and by the squared ϕ'--phi-prime--statistic in the chi-square tests) should be at least 5 percent.

   We recognize this procedure may have allowed some small effects of possible importance to have slipped by unnoticed; however, an early estimate indicated that the printing of all such tests without screening, would have resulted in a stack of computer output over 200 feet high. This was clearly unmanageable.

5. Grasso, John T., "The Contributions of Vocational Education, Training and Work Experience of the Early Career Achievements of Young Men," Doctoral Dissertation in the Department of Educational Development, The Ohio State University, Columbus, Ohio, July 1975, p. 79.

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6. This fails to explain the marital status of the remaining 26 percent. While there is likely some incidence of unmarried persons living together, there is also some question regarding how respondents have interpreted the term "homemaker," since nearly all individuals participate to some degree in the kinds of activities which are generally recognized as homemaking.

7. The difference in marriage rates between blacks and whites was only 2/10ths of a percent, which would not represent an appreciable difference; however, other studies have consistently reported the difference. For example, see:

   Parnes, Herbert S., et. al., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1969, pp. 43-47.

   Shea, John R., et. al., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1971, p. 39.

8. Artifactuality is a strong possibility here, owing to the differing approaches taken by U.S. Bureau of the Census and by the current study. In order to obtain the comparison provided, respondents who indicated their location as suburban to a city were added to the population of the Class for such cities. In many cases it is likely that the Bureau of the Census would have classified such locations as rural. The Census would thereby obtain a rural population much greater than that of this study, which, indeed, is seen to be the case.

9. Parnes, Herbert S., et. al., A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1969, p. 43.

   The statement made by Parnes does not assure that the data are in conflict: "Blacks are more likely than whites to grow up in rural farm areas and in very large cities rather than smaller towns or suburbs." As indicated in text, we also find concentrations of blacks, relative to whites, in larger cities, and a corresponding deficit of blacks relative to whites in suburban areas.

10. There were apparently some responses to the item regarding number of children by persons who should not have responded, i.e., persons who were not married, divorced, widowed, or separated, which may represent the presence of illegitimate children by single parents. As indicated in Chapter 1, the illegitimate birth rate was high throughout the United States at the time of the First Follow-Up Survey.

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11. These data are taken from a compound question in the FFQ which asked respondents to provide both their income and that of their spouse. Since the nonresponse rates to these two subitems were 25 and 79 percent, respectively, we feel the analyses presented are of limited utility, and did not feel justified in sophisticated analyses. The median incomes were obtained by linear interpolations on previously published data. See Notes 12-14 below.

12. There are a number of flaws in the argument presented. In particular, the earnings and employment rates of married males tend to be greater than those of unmarried males. In text we have relied upon the incomes of all males in the sample, whether married or not. Similarly, the earnings of married women, especially those with children, tend to be lower than those of unmarried women. We have also ignored the marital status of women in developing the argument presented. It is likely that the data do not warrant more careful analyses since the nonresponse rates of financial items was quite high.

13. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 23.

14. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 23.

15. Shea, John R., et. al., Dual Careers: A Longitudinal Study of Labor Market Experience of Women, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, May 1970, p. 212.

16. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 71-87.

17. In many cases this represented a change in plans of females relative to their expectations during their senior year of high school. Chapter 4 explores this topic in somewhat greater detail.

18. The comparisons are weakened by the fact that the composition of the respondent subgroups differs between the two items. The first item, FFQ24, is responded to by those who experienced no formal postsecondary educational activities between high school graduation and the period of the First Follow-Up Survey. Such respondents do not respond to the second item. The second item, FFQ29b, is responded to by those who experienced some form of formal postsecondary

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education during this period, but were not enrolled during October 1972. Some business and trade school programs are of short duration and could have been taken by respondents during the summer of 1972, completing the program prior to October 1972. While such respondents are probably not properly considered "stopouts," they should have responded to the second item, and would be considered "stopouts" in the analysis.

19. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 70.

20. This figure is somewhat puzzling since it is lower than the 64 percent who indicated they had actually gone to school. There are a number of possible explanations. The item which asked about formal applications for admission FFQ81 emphasized the submission of applications prior to October 1973, and also emphasized the filling out and sending in of forms. It is remotely possible that substantial proportions of those who received formal postsecondary education did so by submitting applications after the specified date, and it is also possible that admission was granted to some institutions without requiring the respondent to "fill out and send in" forms. We feel these explanations unsatisfactory, but cannot refute them. The most likely explanation we feel to reside in a mix of nonresponse bias, item unreliability, and item invalidity.

21. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 341.

22. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part II, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 98.

23. Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, pp. 28-29.

24. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part II, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 129.

25. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part II, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 145.

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26. Of course, this does not provide a clear picture of the proportion of the Class which dropped out of the October 1972 school prior to completion of the course of study since those who dropped out after October 1972 and enrolled in the same (or a different) school in the same field of study by October 1973 did not respond to this item.

27. Actually, the most frequent reason was "other," which was endorsed by 46 percent of the dropouts. This may suggest that the options provided by the item FFQ38 were inadequate to reflect the domain of reasons.

28. The "current" period begins with high school graduation and terminates with the completion of the First Follow-Up Questionnaire, and represents a period approximately 18 months in duration.

29. The item provided three possible responses (not important, somewhat important, very important) which were converted into an index of importance by assigning values 1, 2, and 3 to the respective responses. Table 2.9 presents the weighted mean of this index for the sample subgroups of interest.

30. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part I, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 50.

31. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Parts III and IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 253-263.

32. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 261.

33. Kohen, Andrew I., and Roderick, Roger D., "Causes of Differentials in Early Labor Market Success Among Young Women," in Proceedings of the Social Statistics Section, American Statistical Association, 1972, p. 332.

34. This analysis was based on data previously published in tabular form. Unfortunately, the data for October 1973 were defective so that a comparison of 1972 and 1973 data could not be made without conducting a special analysis. Expecting October 1973 results to be similar to October 1972, and general dissatisfaction with the operating definition of underemployment caused us to abandon further exploration on this topic. October 1972 data were taken from:

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Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 249.

The defective table is Table 223 in that volume.

35. Changes in job or occupation within the same employer are not counted as changes in employer.

36. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 252.

37. Kohen, Andrew I., and Parnes, Herbert S., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth, Vol. 3, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, June 1971, p. 79.

    Kohen, Andrew I., et. al., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth, Vol. 4, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, 1973, p. 129.

38. Flanagan, Robert J., "Labor Force Experience, Job Turnover, and Racial Wage Differentials," in Review of Economics and Statistics Vol. 56, November 1974, p. 523.

39. Roderick, Roger D., and Davis, Joseph M., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 2, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, March 1973, p. 61.

40. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 250.

41. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 250.

42. See Note 4 for this chapter.

43. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 265.

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44. Among the tests conducted with techniques of low sophistication, this test, with $\phi' = .45$, was among the most dramatic in illustrating the relationship between the independent and dependent variables.

45. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Table 266.

46. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 267-278.

47. It may be noticed that five of the six sex x curriculum subgroups endorsed the need for additional experience at rates equal to, or greater than, the national rate. This accrues to the fact that female vocational graduates (who had the lowest endorsement rate--35 percent) comprised 40 percent of the respondents to the item, and to the fact that females, whose endorsement rate was lower than that of males, comprised 60 percent of the respondents.

48. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part IV, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 279-286.

49. Each of the seven items were Likert formatted items having alternatives "very satisfied," "satisfied," "dissatisfied," and "very dissatisfied." These were assigned values of +2, +1, -1, and -2, respectively. Tables reflect the average of these scores for selected subgroups of the sample.

50. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 213-220.

51. It is likely, in view of the consistency of response patterns for some subgroups across items, that a multivariate analysis of variance would have shown some significant differences. This, however, was not done.

52. See, for example:

    Parnes, Herbert S., et. al., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1969, pp. 161, 190.

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53. It should be observed that the nature of the question differed between the two years. For October 1973, respondents were asked whether they were employed during the first week of October 1973; for October 1972, respondents were asked whether they were employed during the month of October 1972. Persons who were employed during the last three weeks of October, but who were not employed during the first week should not have responded to the October 1973 question. As the data indicate, employment rates were higher in 1973 than in 1972. The bias induced by the variation in wording of the questions should therefore diminish the magnitude of the effects observed.

54. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 190, 224.

55. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 205, 239.

56. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 206, 240.

57. Anne M. Young finds a similar result, "Over half the women who were employed were in white-collar jobs, primarily as clerical workers."

Young, Anne M., "The High School Class of 1972: More at Work, Fewer in College," in Monthly Labor Review, June 1973, p. 26.

58. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 211 and 247.

59. Center for Educational Research and Evaluation, Tabular Results of The First Follow-Up Questionnaire, Part III, Research Triangle Institute, Research Triangle Park, N.C., 27709, July 1975, Tables 212, 248.

CHAPTER 3

CURRENT STATUS AND CHARACTERISTICS IN RELATION TO BASE-YEAR VARIABLES

3.1 Introduction

The discussion of Chapter 2 was limited to the development of the educational and vocational activities of the Class of 1972 during the "current" period, i.e., the period beginning with high school graduation and ending with the completion of the First Followup Questionnaire (FFQ) approximately 18 months later. Apart from considerations of race, sex, high school curriculum, academic ability, and socioeconomic status, the Class of 1972 was described only in terms of "current" attitudes and activities; there was no attempt to relate current activities to the variety of base-year variables which were available.

In the current chapter a number of relationships will be developed between variables gathered during the Base Year Survey and those gathered during the First Followup Survey. The emphasis is on relationships which can be found between the two points in time.

In a very real sense, the first year beyond high school can be regarded as a transition into the first stages of adulthood. The ingredients which went into the making of the high school student--family and ethnic background, peer relations, classroom activities, work experiences--have produced individuals with attitudes, skills, plans, aspirations, and knowledge which must now be applied to the realities of survival in a complicated civilization. As we have seen, a large portion of the Class directed its efforts toward additional training or formal education. Some went to work. Others became homemakers. Many simultaneously undertook more than one such activity. These activities, described in Chapter 2, represent what the Class was doing during the current period. Now we begin the discussion of why, relating prior information obtained during the Base Year to later activity states in order to broaden our understanding of how things came to be as they are.

3.2 Postsecondary Activities and Background Variables

Respondents did not designate either a principal activity or specify which of their postsecondary activities had demanded most of their time.[1] However, based on their responses to several First Followup Questionnaire (FFQ) items, respondents could be classified according to nine postsecondary activity-state categories that correspond conceptually to "principal activity" classifications. For the first set of analyses, the following sequential, forced-choice assignment categories were devised to classify respondents by principal activity:

I. Enrolled in school or college in October 1972, regardless of work status:

  A. Four-year college, full time or part time

  B. Two-year college, full time or part time

  C. Vocational, technical, or other type of school full time or part time

II. Not enrolled in school or college in October 1972:

  D. Military service (respondents were classified here if applicable at any time during the current period--the respondent may also have held a job or engaged in apprenticeship training concurrently or at other times during the current period)

E. Apprenticeship or on-the-job training

F. Working full time at a job in October 1972 (35 or more hours per week)

G. Working part time at a job in October 1972 (less than 35 hours per week)

III. Not enrolled in school and not working at a job in October 1972

H. Homemaker (respondents were classified here if they gave being a homemaker, pregnancy, or child-care responsibilities as reasons for not working at a job in October 1972)

I. Other (not a homemaker, not working at a job, not enrolled as a student).

Notice that the classification scheme ignores concurrent or sequential participation by some individuals in two or more activities, while the data presented in Chapter 2 do not; frequencies and percentages associated with these "primary activities" cannot be compared with those of Chapter 2. Notice also that priority is assigned to educational and training pursuits; an individual might simultaneously be working a job and attending school, but he would be classified only as attending school. Similarly, an individual who had been in the military, but who later worked a civilian job in October 1972 would be classified as "military." Obviously, the scheme is not wholly satisfactory; however, the classifications probably are adequate to permit reasonable classification of most of the sample into appropriate primary activities.

Using the primary activities classification scheme, respondents were sorted into categories. The results are displayed in Table 3.1, which displays percentage distributions of the Class of 1972 by primary activity category, with similar distributions by sex, race, and high school curriculum.[2]

Table 3.1

Postsecondary "Primary Activity" Classification by Race, Curriculum, and Sex (in Percent), in October 1972

		Curriculum			Sex		Race	
Status After High School (October 1972)	Total	General	Academic	Vocational	Male	Female	Black	White
Enrolled, school or college	(57.3)	(40.1)	(80.9)	(28.6)	(57.9)	(56.8)	(48.9)	(58.2)
Four-year	29.9	11.9	52.1	5.4	31.0	28.8	24.2	30.5
Two-year	14.6	15.1	16.8	9.1	15.3	13.9	9.6	15.1
Other	12.8	13.1	12.0	14.1	11.6	14.1	15.1	12.6
Not enrolled: military apprentice, working	(34.7)	(47.6)	(15.4)	(59.4)	(37.4)	(32.2)	(35.3)	(34.7)
Military	3.1	5.2	1.7	3.6	5.9	0.5	5.7	2.9
Apprentice or on-the-job trainee	9.6	13.1	4.4	16.1	10.0	9.1	9.6	9.6
Working full time	17.9	24.1	7.2	32.6	18.3	17.5	15.8	18.1
Working part time	4.1	5.2	2.1	7.1	3.2	5.1	4.4	4.1
Not enrolled, not working at a job	(8.0)	(12.3)	(3.6)	(12.0)	(4.7)	(11.1)	(15.7)	(7.3)
Homemaker	2.4	3.9	1.0	3.0	0.1	4.7	3.8	2.3
Other	5.6	8.4	2.6	8.4	4.6	6.4	11.9	5.0
Total	100.0	100.0	99.9	100.0	100.0	100.1	99.9	100.2

For the class as a whole, 57% were enrolled in some form of school or college; 35% were either working, in the military, or in apprenticeship or on-the-job training; 2% were homemakers; and 6% were neither working at a job nor enrolled in a school or college. There were noteworthy differences in primary activity distributions by sex and race. For example, almost 12% of blacks were neither enrolled nor employed as compared to only 5% of whites, and proportionally fewer blacks (49%) than whites (58%) were enrolled in school or college. The most pronounced differences in primary activity distributions, however, were associated with high school curriculum. For example, almost 81% of academic graduates were enrolled in school or college, compared to 29% for vocational graduates and 40% for general graduates; over half of the academic graduates (52%) were in a four-year college, compared to only 5% of vocationals and 12% of generals. Almost 60% of vocational graduates, as compared to 48% of general and 15% of academic graduates, were either working full or part time, or in apprenticeship/on-the-job training, or military service. Academics had the lowest percentage of individuals who were not "gainfully occupied," i.e., who were neither working nor going to school (less than 3% for academics, compared to 8% for vocational and general graduates).

Generally speaking, vocational graduates and blacks tended to be underrepresented in the two-year college category and, like women, overrepresented in the vocational, trade, or other school group.

In addition to primary differences by sex, race, and curriculum, differences in postsecondary activities were visible in academic performance profiles which were gathered during the Base Year Survey. As suggested in Figure 3.1, members of the Class of 1972 who were enrolled in some type of school or college in October 1972 had higher average scores of Vocabulary, Reading, Letter Groups, and Mathematics tests, and had higher imputed high school grade point averages than their classmates who were not so enrolled.

Among students, systematic differences in average ability level obtain according to type or level of institution attended. Those attending four-year colleges had higher means on all five measures than those attending two-year colleges. Those respondents, in turn, had higher means than those attending vocational, trade, or other types of school.

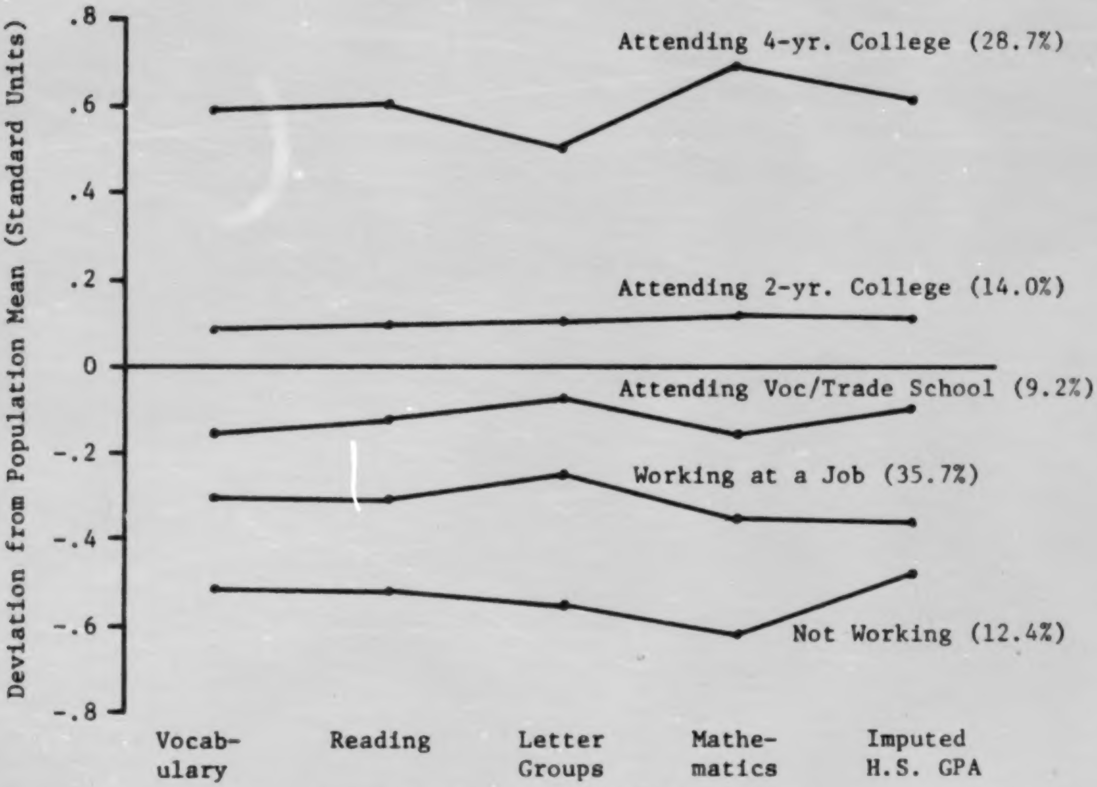
Among nonstudents, those working at a job full time or part time scored higher on all five cognitive measures than those not working at a job. This latter group includes individuals who were looking for a job as well as those who reported that they were not looking for a job in October 1972 (such as full time homemakers).

Thus, in the total sample, scores on the five cognitive measures simultaneously differentiate participation versus nonparticipation in educational activity, levels of educational activity among those participating, and among nonstudents, participation versus nonparticipation in the labor market. The lowest profile is associated with that group of individuals who were neither enrolled nor working at a job.

Whether this pattern held separately for each race was next examined. In the re-evaluation of the base year data[3] it was noted that, in terms of performance on the Student Test Battery, black seniors earned

Figure 3.1

Ability and High School Performance Profiles for Primary Activity Classifications in October 1972



scores well below the average for all seniors tested. Scores on Vocabulary, Reading, Letter Groups, and Mathematics for blacks were approximately .8 standard units below the population mean. However, their high school grades, while below average for the Class as a whole, were higher than might be expected considering the test results.

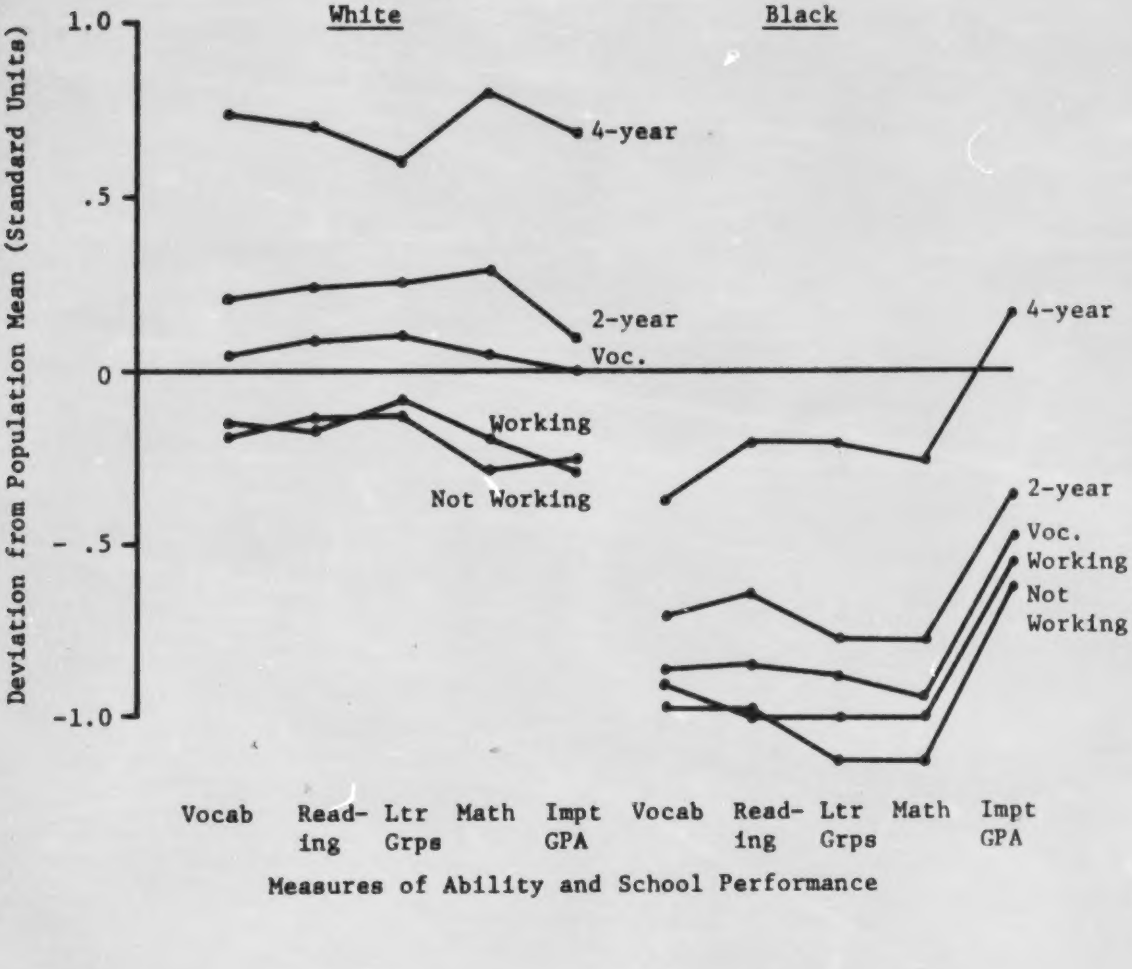
At the same time, in terms of personal goals, aspirations, and self-image (e.g., level of intended occupation, self-assessed ability to complete college, projected educational level), and level of parental or family aspirations for the child's future educational attainment, black seniors were not different from others--their scores on these measures were typical for the Class as a whole.

Some indication of the extent to which, for blacks, the disadvantages of low scores on the test measures and low levels of family income, education, and occupation have been transcended by personal effort is provided in an analysis of ability and high school performance for white and black respondents, respectively, classified according to status in October 1972 as students (four-year college, two-year college, or vocational/trade school), workers (holding a full-time or part-time job, but not enrolled), and nonworkers (nonstudents, nonjobholders, including homemakers), respectively. Shown in Figure 3.2 are mean ability and high school performance profiles for white and black respondents, respectively, classified according to primary activity status in October 1972.

The same general patterns clearly obtain for each race: four-year college students are characterized by highest levels of ability, followed by two-year college and trade-school enrollees, respectively; respondents

Figure 3.2

Ability and High School Performance Profiles for Groups Classified by Primary Activity in October 1972, by Race



working at a job tend to have somewhat higher profiles of ability than those not working at a job. However, the most striking feature of these graphs derives from the pronounced differences in the average level of the profiles for blacks and whites in comparable activity states.

It should be kept in mind (see Table 3.2) that roughly comparable percentages of blacks and whites, respectively, were in the respective activity statuses in October 1972. Although blacks were underrepresented in the "student" and "worker" categories and overrepresented in the "not working" category, the degree of comparability in attainment between blacks and whites in the Class of 1972 is much greater than would be projected on the basis of the marked differences in performance on the ability measures.

Table 3.2

Percentage Distribution of Blacks and Whites by Primary Activity Classifications

Activity Classification	Percent of Blacks	Percent of Whites
Four-year school	24.9%	30.8%
Two-year school	9.9	14.3
Vocational school	10.7	9.2
Working	31.6	35.6
Not Working	22.9	10.2

Viewed positively, these findings may suggest that programs of affirmative action have had an influence in extending opportunity for postsecondary education and employment to disadvantaged groups--in this instance, blacks--whose performance on traditional standardized tests used in selection might otherwise have resulted in their being "passed over" in the competition for admission to postsecondary institutions or for employment.

The apparently anomalous elevation of the high school grade point averages for blacks in every activity state may be explainable in terms of differences in schools attended by blacks and whites and the relative nature of grading standards--i.e., the tendency for student performance to be judged in terms of a local normative frame of reference for performance, rather than in absolute terms.

Whatever the ultimate explanation of the findings portrayed in Figure 3.2 may be, it is important to recognize that for blacks in the Class of 1972 who persisted through high school graduation, the fact that their "test score qualifications" were substantially lower than those presented by their white classmates did not presage, for blacks as a group, a comparable difference in attainment in the years after high school, even though among individuals within each racial group differences in level of educational and employment status attained were clearly associated with test-score differences.

As for the patterns suggested by these profiles, either for white or black respondents, it seems possible to infer that the functional ability reflected in scores on tests of verbal and mathematical skills and in grades earned in school appear to constitute an important element in the matrix of personal and situational factors that help to determine the extent and nature of individual participation in postsecondary educational and employment activities within a few months after leaving high school. However, whether individuals become college students, workers, or nonworkers after leaving high school is clearly not solely a function of differences in race, or in academic performance, or ability.

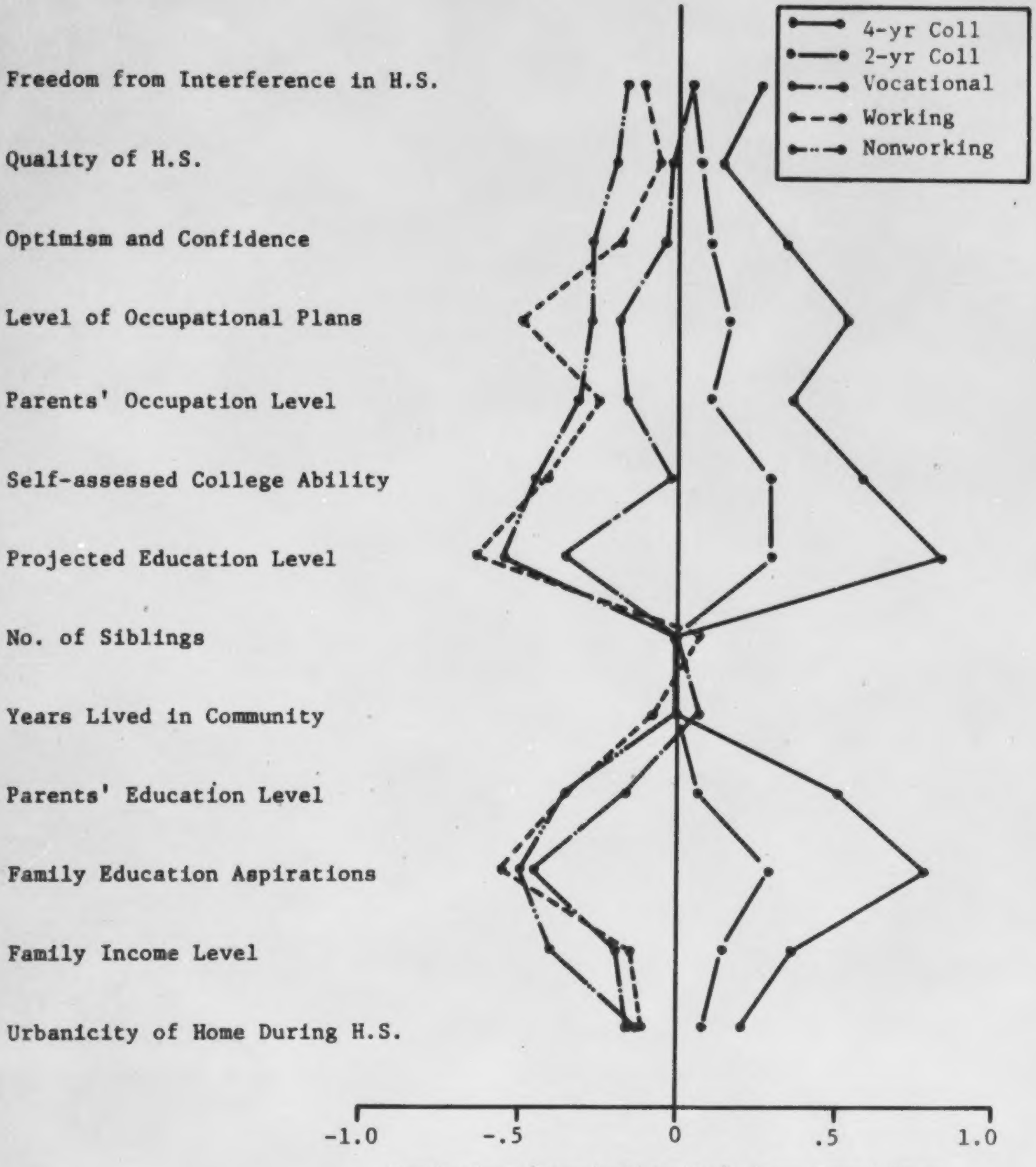
Figure 3.3 indicates that the five primary activity groups under consideration are differentiated by a variety of family, personal, and situational variables in addition to ability, especially by family background characteristics, personal levels of occupational and educational aspiration, self-assessed ability to complete college, general degree of optimism in outlook for the future, and other variables. Among the variables displayed, only number of siblings and years lived in the community failed clearly to distinguish the activity states.

Four-year college students, as high school seniors, tended to report high levels of educational and occupational aspiration, and they perceived the concurrence of their parents in these aspirations, consistent with the characteristically higher educational, occupational, and income levels of their families. They had highest means on self-assessed ability to complete college and in optimism in outlook. Their educational progress in high school reportedly was relatively free of interfering factors, and they tended to rate the schools they attended relatively highly. The profile of characteristics of two-year college students varies only in level from that of four-year college students.

Individuals enrolled in trade, vocational or other types of schools were lowest of the three student categories on most of the base-year variables. Of particular interest is the fact that, as opposed to students in traditional forms of higher (postsecondary) education, vocational school students often reported low levels of parental aspiration for their educational attainment relative to family educational, occupational, and income levels.[4] Vocational students and nonstudents more often came from families that apparently did not encourage them to

Figure 3.3

Profiles of Mean Scores for Students, Workers, and Nonworkers



develop plans calling for extensive education. Two- and four-year college students, on the other hand, appear to have been encouraged to develop such plans either directly or indirectly.

Nonstudents, working and nonworking alike, were lowest in terms of personal and parental educational and occupational aspirations; they gave a low evaluation of their ability to complete college, their overall outlook on life was less optimistic and confident than that of student groups generally, and, as was previously noted, they were lowest of all groups with respect to measured ability and school performance.

3.3 Discrimination of Activity States

The profiles of the previous section suggest a relationship between primary activity state in October 1972 and certain background variables gathered during the last part of the senior year of high school. To determine whether differences in primary activity states could parsimoniously be described in terms of a few--perhaps one or two--uncorrelated functions of these variables a series of multi-group, multiple discriminant functions were developed.[5] In these analyses, the five primary activity groups served as the groups to be discriminated and the predictor variables consisted of the 18 base-year measures presented in the previous section. Only complete data cases were used.[6]

The first pair of multiple discriminant analyses (MDA-1A and MDA-1B) differ in terms of independent variables; MDA-1A uses five cognitive variables (Vocabulary, Reading, Letter Groups, Mathematics, and Imputed GPA), while MDA-1B uses all 18 variables. The second pair of analyses (MDA-2A and MDA-2B) differ from the first pair by discriminating 15 groups (the five groups were each partitioned by race into black, white and other classifications).

Table 3.3 shows the number of cases with complete data, by group. There were 13,533 complete data cases for analyses involving the five cognitive variables, but only 5,891 such cases for analyses involving the entire 18-variable base-year cluster.[7]

Table 3.3

Distribution by Outcomes Category and Race
of Cases with Complete Data

Primary Activity Group	Blacks		Whites		Other Ethnic		Total	
	No.	%	No.	%	No.	%	No.	%
Complete data: 18 variables								
Attending 4-yr college	163	46.5	2103	41.0	135	32.8	2401	40.8
Attending 2-yr college	30	8.5	788	15.4	81	19.7	899	15.3
Attending voc/trade sch	34	9.7	463	9.0	32	7.8	529	9.0
Working	75	21.0	1439	28.1	120	29.2	1633	27.7
Not working	50	14.2	336	6.6	43	10.5	429	7.3
Total	351		5129		411		5891	
Complete data: 5 variables								
Attending 4-yr college	371	24.9	3251	30.8	293	19.9	3915	28.9
Attending 2-yr college	148	9.9	1513	14.3	250	17.0	1911	14.1
Attending voc/trade sch	160	10.7	968	9.2	112	7.6	1240	9.2
Working	471	31.6	3759	35.6	586	39.9	4816	35.6
Not working	342	22.9	1080	10.2	229	15.6	1651	12.2
Total	1492		10571		1470		13533	

In the first analysis involving the five cognitive variables, (MDA-1A) over 95% of the variation among the five categories was accounted for by the principal discriminant function, and the first two functions accounted for 99.7% of group differences in cognitive abilities (see eigenvalues in Table 3.4). Results of the analysis involving 18 antecedent variables (MDA-1B) were similar, in that the first function accounted for 93.9% and the first two for over 97% of group differences in performance on the base-year battery (see eigenvalues in Table 3.5).

In evaluating the findings, it is useful to plot the centroids of the five outcomes groups in the two-dimensional space defined by the first two discriminant functions. This has been done for the functions derived in the analysis involving all 18 base-year variables (MDA-1B), as shown in Figure 3.4.

High scores on the first function (of MDA-1B) are obtained by individuals with high projected educational level, high family aspiration for education, good grades in school, and high mathematics scores. This function serves primarily to differentiate four-year and two-year college students from those attending vocational, trade, or other noncollegiate types of schools and their nonstudent classmates (working and nonworking). These latter groups are all relatively low on the first function, although vocational school students tend to be slightly higher with regard to the key variables involved.

The second function (of MDA-1B) serves primarily to separate vocational school students (with lowest scores on the function) from nonworking nonstudents (with highest scores). High scores on Function 2 are obtained by individuals reporting high family aspiration for education and earning high grades (with low numerical values because of the inverted scale) relative to their self-assessed ability to complete college and their mathematics scores. Low second function scores represent the opposite. It may be recalled that the "not working" group includes a disproportionate

Table 3.4

Results of Multiple Discriminant Analysis, Five Primary Activity Categories vs. Five Cognitive Variables (Combined Data)

DISCRIMINANT FUNCTION	EIGENVALUE	RELATIVE PERCENTAGE	CANONICAL CORRELATION
1	0.38986	95.40	0.530
2	0.01757	4.30	0.131
3	0.00092	0.22	0.030
4	0.00030	0.007	0.017

FUNCTIONS DERIVED	WILKS' LAMBDA	CHI-SQUARE	DF	SIGNIFICANCE
0	0.7062	4705.137	20	0.0
1	0.9815	252.018	12	0.0
2	0.9988	16.418	6	0.012
3	0.9997	4.014	2	0.134

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
VOCAB	+0.23165	0.11967	0.70168	1.16576
READING	+0.11493	0.24857	0.41135	-1.36792
LETTERGP	-0.04204	-0.19982	-1.00942	0.32152
MATH	+0.53237	-1.01547	0.11977	-0.06874
IMPGAPA	-0.36217	-0.98268	0.39158	-0.02673

CENTROIDS OF GROUPS IN REDUCED SPACE

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
GROUP 1 FOUR-YEAR	+0.77356	0.03351	0.00873	0.00226
GROUP 2 TWO-YEAR	+0.08827	-0.09420	-0.00990	-0.00178
GROUP 3 VOC+OTHER	-0.17482	0.04010	-0.06245	-0.03847
GROUP 4 WORKING	-0.42178	-0.04904	-0.00720	0.01523
GROUP 5 NOT WORKING	-0.56806	0.12950	0.06017	-0.01973

Table 3.5

Results of Multiple Discriminant Analysis: Five Primary Activity Categories versus 18 Independent Variables (Combined Sample)

DISCRIMINANT FUNCTION	EIGENVALUE	RELATIVE PERCENTAGE	CANONICAL CORRELATION
1	1.03697	93.99	0.713
2	0.03407	3.09	0.182
3	0.01841	1.67	0.134
4	0.01384	1.25	0.117

FUNCTIONS DERIVED	WILKS' LAMBDA	CHI-SQUARE	DF	SIGNIFICANCE
0	0.4598	4567.293	72	0.0
1	0.9366	384.956	51	0.0
2	0.9685	188.022	32	0.0
3	0.9864	80.780	15	0.000

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2
VOCAB	+0.00470	0.20692
READING	-0.01632	0.15924
LETTERGP	-0.01718	0.03386
MATH	+0.14326	-0.44386
IMPGPA	-0.16210	-0.50270
SELFABIL	+0.00476	-0.81147
FREEINT	+0.02494	-0.00292
SCHQUAL	+0.03077	-0.09142
OUTLOOK	+0.01698	-0.11336
TENCOMM	+0.04502	-0.32298
URBAN	-0.00283	0.09545
SIBLINGS	-0.01621	0.04427
STUDOCC	+0.10486	-0.13511
FAMILYED	+0.11160	0.07281
FAMASPR	+0.24689	0.70422
PROJED	+0.51925	-0.21909
FAMINCM	+0.02856	-0.06150
FAMOCC	-0.00444	-0.11340

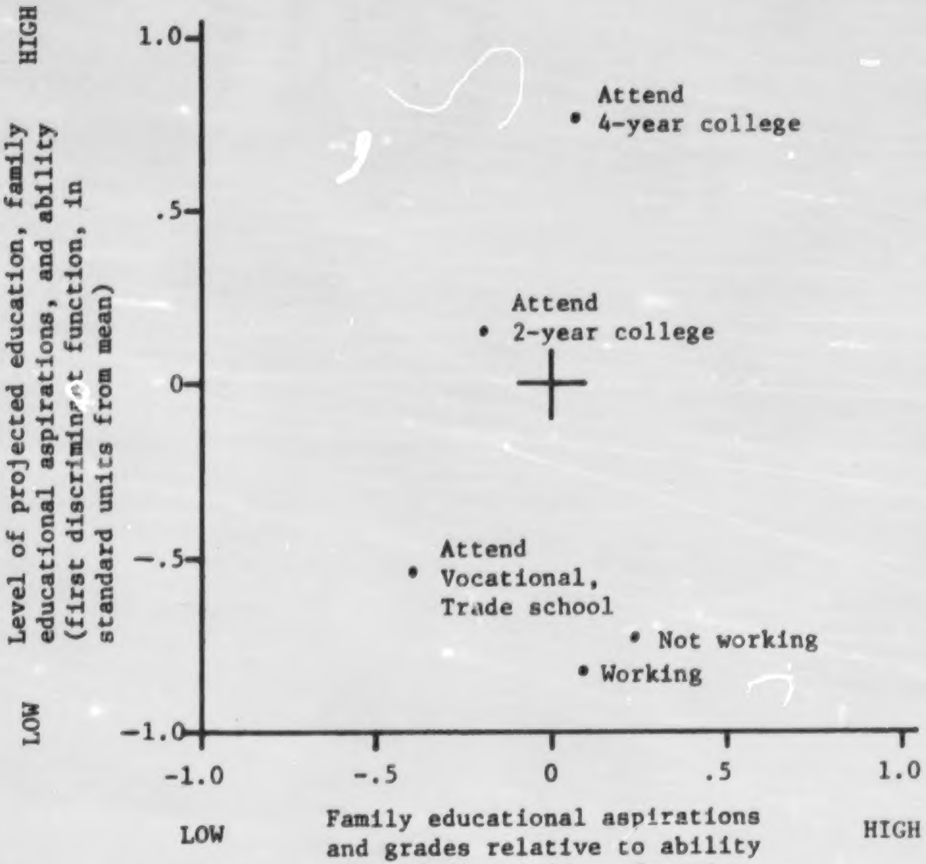
CENTROIDS OF GROUPS IN REDUCED SPACE

	FUNC 1	FUNC 2
GROUP 1 FOUR-YEAR	+0.77406	0.06135
GROUP 2 TWO-YEAR	+0.13234	-0.19866
GROUP 3 VOC+OTHER	-0.55208	-0.41245
GROUP 4 WORKING	-0.83038	0.09219
GROUP 5 NOT WORKING	-0.76616	0.22544

Figure 3.4

Centroids of Five Primary Activity Groups in Discriminant Space (First Two Discriminant Functions, 18 Variables)

Analysis MDA-1B



number of women and blacks. Both these groups are characterized by high grades and family aspirations relative to mathematics scores, while vocational school students are characterized by quite low family aspirations relative to both self-assessed ability and mathematics scores.

Evidence of whether ethnic group differences seen in section 3.1 have primary activity-related implications is provided in two multiple discriminant analyses in which 15 groups are defined for analysis by classifying members of each of three ethnic groups (black, white, and other) according to the five postsecondary outcomes under consideration.

The first analysis (MDA-2A) contrasted the 15 groups thus defined with respect to the five cognitive variables, while the second (MDA-2B) involved the 15 groups and the entire 18-variable battery.

Results of the first analysis (see Table 3.6) indicate that, as in the total sample analysis, a single discriminant function can account for essentially all (92.2%) of the significant information about race/outcomes group differences with respect to the five cognitive measures. The second function derived accounted for slightly over 6% of group differences. Centroids of the 15 groups in the reduced space defined by the first two discriminant functions of the five ability variables are plotted in Figure 3.5.

In Figure 3.5 the 15 groups are identified by race (W, B, and O for white, black, and other, respectively) and by primary activity group (schools by 4, 2, and Voc for those attending four-year colleges, two-year colleges, and vocational or trade schools, respectively; workers and nonworkers by w and nw, respectively). Within each of the three ethnic

Table 3.6

Results of Multiple Discriminant Analysis: 15 Groups (5 Outcomes by 3 Ethnic) and Five Cognitive Variables

DISCRIMINANT FUNCTION	EIGENVALUE	RELATIVE PERCENTAGE	CANONICAL CORRELATION
1	0.63197	92.19	0.622
2	0.04408	6.43	0.205
3	0.00601	0.88	0.077
4	0.00178	0.26	0.042
5	0.00164	0.24	0.040

FUNCTIONS DERIVED	WILKS' LAMBDA	CHI-SQUARE	DF	SIGNIFICANCE
0	0.5814	7333.453	70	0.0
1	0.9488	710.518	52	0.0
2	0.9906	127.284	36	0.000
3	0.9966	46.222	22	0.002
4	0.9984	22.180	10	0.014

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4	FUNC 5
VOCAB	-0.28202	-0.04761	0.74542	-0.40878	1.11585
READING	-0.15305	-0.00923	-0.63569	-1.07927	-0.93696
LETTERGP	-0.10699	-0.62983	-0.96480	0.36157	0.67680
MATH	-0.50102	-0.26415	0.90497	0.83018	-0.77092
IMPGPA	0.16162	-1.12650	0.30463	-0.26893	-0.11857

CENTROIDS OF GROUPS IN REDUCED SPACE

	FUNC 1	FUNC 2	FUNC 3
GROUP 1 W4-YEAR	+0.88912	0.13533	0.05036
GROUP 2 W2-YEAR	+0.25928	-0.16202	0.00623
GROUP 3 WVOCOTH	+0.03580	-0.07117	-0.07924
GROUP 4 WWORKING	-0.25138	-0.19732	-0.04661
GROUP 5 WNOTWORK	-0.28839	-0.10644	-0.09700
GROUP 6 B4-YEAR	-0.25208	0.43910	-0.21717
GROUP 7 B2-YEAR	-0.85858	0.33607	0.05688
GROUP 8 BVOCOTH	-1.02580	0.45204	-0.03006

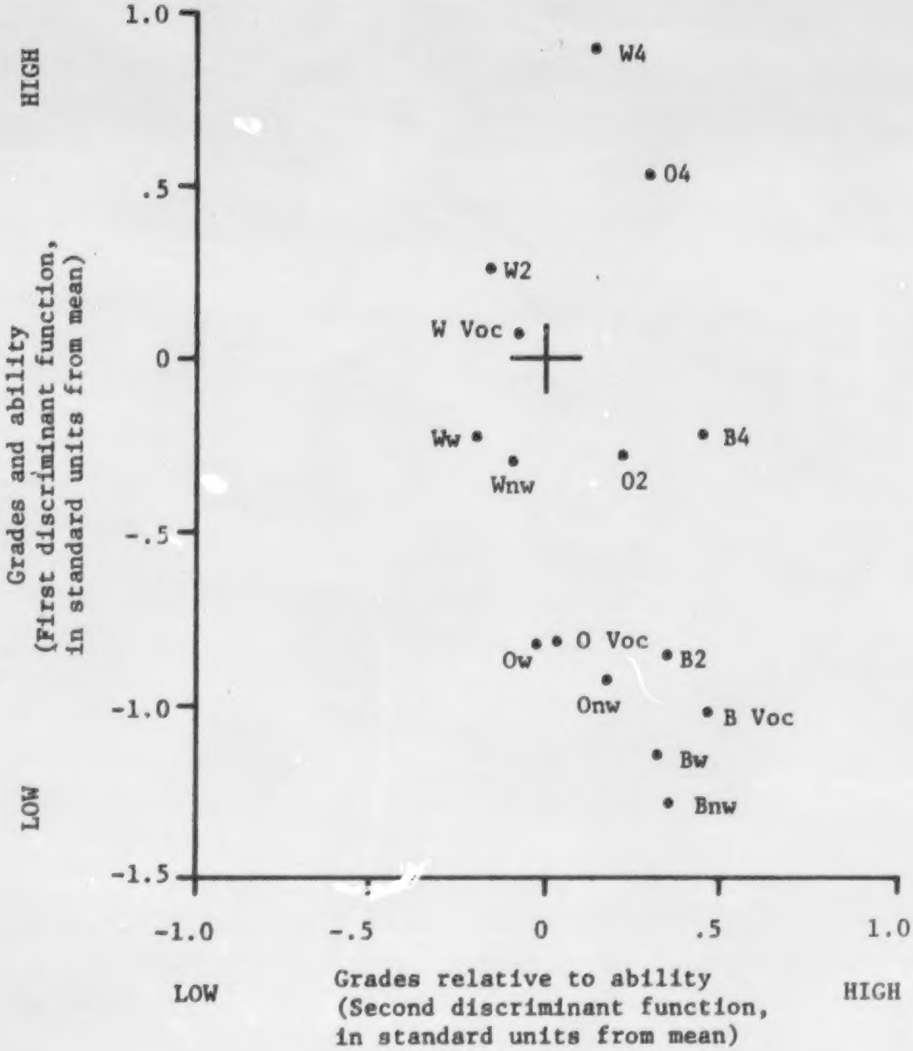
Table 3.6 (continued)

	FUNC 1	FUNC 2	FUNC 3
GROUP 9 B-WORK	-1.13138	0.32005	0.19030
GROUP 10 B-NOTWORK	-1.26027	0.34058	0.14803
GROUP 11 OTH-4YR	+0.51780	0.28590	0.05341
GROUP 12 OTH-2YR	-0.28491	0.20742	0.01973
GROUP 13 OTH-VOC	-0.81125	0.00525	-0.10228
GROUP 14 OTH-WORK	-0.81709	-0.00545	0.14160
GROUP 15 OTH-NWK	-0.92667	0.17334	0.20992

Figure 3.5

Centroids of 15 Race x Primary Activity Groups in Discriminant Space (First Two Discriminant Functions, Five Cognitive Variables)

Analysis MDA-2A



groups, primary activity classifications vary in much the same manner with respect to the composite variables under consideration, mirroring results in the total sample analysis. Four-year college students are highest on the first function, two-year college students are next highest, and nonstudent-nonworkers are lowest in each ethnic group.

Ethnic-group differences in level of performance on the ability variables are clearly reflected in the array of groups along the first discriminant function. Centroids of primary activity categories for individuals classified as "Other" (than black or white) occupy a position between those of whites (highest) and blacks (lowest) along the first discriminant axis.

The second function serves primarily to reflect group differences in the imputed high school grade point average relative to measured ability--individuals or groups with higher scores on the second function are characterized by high grades (weighted negatively due to the inverse scaling of this variable) relative to their ability scores, especially on letter group and mathematics tests. Centroids of activity groups for blacks (for whom the foregoing pattern has been seen to obtain) are arrayed toward the high end of the second discriminant axis, while those of several white, "nonacademic" groups are arrayed toward the lower end.

These findings suggest that the relationship between ability and the postsecondary activities under consideration is essentially the same within each of the ethnic group classifications defined for the analysis. The data in Figure 3.5 also reflect the pervasive differences by race in level of scores on cognitive measures. When cognitive measures were augmented by other variables in the base-year battery, results indicated a similar pattern with respect to the similarity in the combinations of variables associated with outcomes within each ethnic group but sharp differences among ethnic groups with respect to levels and patterns of scores on the antecedent variables.

As may be seen in Table 3.7, the first discriminant function accounted for approximately 76% of the information about differences among the 15 race/activity categories contained in the 18-variable battery, while the second function accounted for over 17%. Thus the first two functions accounted for essentially all the meaningful information about group differences contained in the original antecedent variables. Centroids of the 15 groups with respect to the first two functions are plotted in Figure 3.6.

Key variables on the principal discriminant function in the 18-variable analysis by race (projected education, family aspiration for student's education, mathematics and imputed grade point average) are exactly the same as those obtained in the total sample analysis and are almost identically weighted.

From the location of centroids in Figure 3.6 it is evident that the first function serves to differentiate outcomes groups without regard to race, while the second function serves primarily to reflect ethnic-group differences in patterns and levels of scores on the antecedent variables.

High scores on the second function would most often be obtained by individuals with low scores on ability (especially mathematics) from low-income families in urban areas, but with high family aspirations for their educational attainment, as well as high personal educational goals.

Table 3.7

Results of Multiple Discriminant Analysis MDA-2B: 15 Groups (5 Activity x 3 Ethnic) and 18 Base-Year Variables

DISCRIMINANT FUNCTION	EIGENVALUE	RELATIVE PERCENTAGE	CANONICAL CORRELATION
1	1.05833	75.71	0.717
2	0.24199	17.31	0.441
3	0.03693	2.64	0.189
4	0.01883	1.35	0.136
5	0.01130	0.81	0.106
6	0.00849	0.61	0.092
7	0.00674	0.48	0.082
8	0.00553	0.40	0.074
9	0.00315	0.22	0.056
10	0.00240	0.17	0.049
11	0.00154	0.11	0.039
12	0.00151	0.11	0.039
13	0.00078	0.06	0.028
14	0.00039	0.03	0.020

FUNCTIONS DERIVED	WILKS' LAMBDA	CHI-SQUARE	DF	SIGNIFICANCE
0	0.3552	6080.258	252	0.0
1	0.7310	1840.200	221	0.0
2	0.9079	567.311	192	0.0
3	0.9415	354.301	165	0.000
4	0.9592	244.736	140	0.000
5	0.9700	178.726	117	0.000
6	0.9783	129.095	96	0.012
7	0.9849	89.626	77	0.154
8	0.9903	57.261	60	0.576
9	0.9934	38.822	45	0.730
10	0.9958	24.757	32	0.816
11	0.9973	15.724	21	0.785
12	0.9988	6.891	12	0.865
13	0.9996	2.295	5	0.807

Table 3.7 (continued)

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
VOCAB	+0.02356	-0.29989	-0.28809	-0.08739
READING	-0.00610	-0.13952	-0.17673	-0.17281
LETTERGP	-0.00782	-0.20016	-0.04824	-0.00749
MATH	+0.16643	-0.37078	0.37719	0.31699
IMPGPA	-0.15665	-0.10818	0.56138	0.59844
SELFABIL	-0.00579	+0.16598	0.82078	-0.12977
FREEINT	+0.02591	+0.01004	-0.01812	-0.16684
SCHQUAL	+0.03764	-0.10959	0.08793	0.03163
OUTLOOK	+0.02463	-0.11165	0.10643	-0.01940
TENCOMM	+0.05185	-0.12636	0.26708	-0.17722
URBAN	-0.02306	+0.30891	-0.10477	0.07183
SIBLINGS	-0.03015	+0.23808	-0.05737	-0.22928
STUDOCC	+0.09772	+0.15317	0.13728	-0.31015
FAMILYED	+0.11389	-0.04242	-0.11959	-0.29043
FAMASPR	+0.22471	+0.37957	-0.60971	0.71510
PROJED	+0.50240	+0.26461	0.30051	-0.06893
FAMINCM	+0.05412	-0.44135	0.01752	0.38304
FAMOCC	+0.00365	-0.13189	0.15276	-0.00195

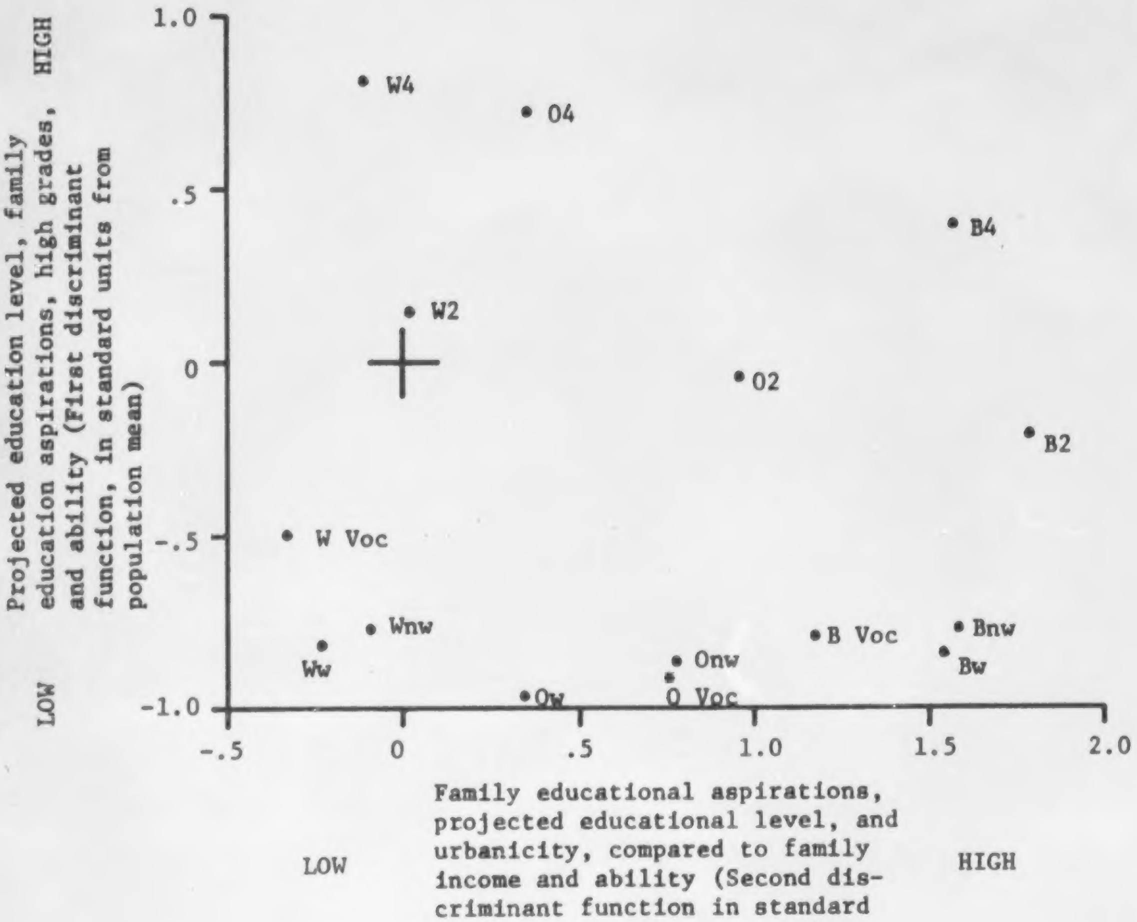
CENTROIDS OF GROUPS IN REDUCED SPACE

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
GROUP 1 W4-YEAR	+0.80592	-0.12081	-0.06934	-0.02515
GROUP 2 W2-YEAR	+0.15107	+0.00640	0.26662	0.17265
GROUP 3 WVOCOTH	-0.49823	-0.33884	0.37572	-0.29757
GROUP 4 WWORKING	-0.81384	-0.22582	-0.10028	0.07872
GROUP 5 WNOTWORK	-0.76095	-0.09662	-0.26875	-0.11620
GROUP 6 B4-YEAR	+0.40301	+1.56672	0.00483	0.01011
GROUP 7 B2-YEAR	-0.20119	+1.77679	0.32345	0.48209
GROUP 8 VVOCOTH	-0.79347	+1.16599	0.39841	-0.51075
GROUP 9 B-WORK	-0.84215	+1.53347	-0.20710	-0.17390
GROUP 10 B-NOTWORK	-0.82364	+1.57944	-0.04925	-0.20734
GROUP 11 OTH-4YR	+0.73082	+0.34985	-0.15645	-0.06552
GROUP 12 OTH-2YR	-0.02979	+0.94507	-0.01181	-0.00651
GROUP 13 OTH-VOC	-0.91013	+0.74616	0.24996	-0.01336
GROUP 14 OTH-WORK	-0.95805	+0.33652	-0.01588	0.17119
GROUP 15 OTH-NWK	-0.85681	+0.75846	0.18744	-0.09867

Figure 3.6

Centroids of 15 Primary Activity x Race Groups in Discriminant Space (First Two Discriminant Functions, 18 Base-Year Variables)

Analysis MDA-2B



Discrimination of High School Curriculum

A third multiple discriminant analysis (MDA-3) was developed to discriminate among the 15 groups which result from the Cartesian product of high school curriculum with the five primary activity states. As shown in Table 3.8, these groups are differentiated primarily by one linear function of the 18 base-year variables which exhausted some 90 percent of the information about differences among the groups (eigenvalues in Table 3.8). A second function accounted for about 4% of group differences. Key variables on the principal function are the same as those identified in each previous analysis. Centroids of the 15 groups with respect to the first two functions, which summarize all the interpretable information about group differences, are plotted in Figure 3.7. The three primary high school curriculum groups are identified in Figure 3.7 as Gen, Aca, and Voc, respectively, for graduates of the general, academic, and vocational curricula. Primary activity groups are identified as before: 4, 2, and V represent 4-year college students, 2-year college students, and students in vocational or trade schools, while workers and nonworkers are identified by "w" and "nw", respectively.

Within each of the three curriculum groups, outcomes groups are arrayed along the principal axis in the same general pattern, but they are at quite different levels. Thus, for example, academic curriculum graduates in four-year colleges ("Aca-4" in Figure 3.7) are higher than similarly-enrolled graduates of general and vocational curricula.

Clustered at the low end of the first function are general and vocational graduates who did not continue their formal education in a traditional two-year or four-year college--i.e., who enrolled in vocational or trade schools or who were nonstudents, either working or nonworking.

Table 3.8

Results of Multiple Discriminant Analysis MDA-3: 15 Groups (5 Outcomes by 3 Curriculum) and 18 Base-Year Variables

DISCRIMINANT FUNCTION	EIGENVALUE	RELATIVE PERCENTAGE	CANONICAL CORRELATION
1	1.61403	89.72	0.786
2	0.06896	3.83	0.254
3	0.03863	2.15	0.193
4	0.03123	1.74	0.174
5	0.01218	0.68	0.110
6	0.00914	0.51	0.095
7	0.00806	0.45	0.089

FUNCTIONS DERIVED	WILKS' LAMBDA	CHI-SQUARE	DF	SIGNIFICANCE
0	0.3191	6708.484	252	0.0
1	0.8342	1064.687	221	0.0
2	0.8917	673.014	192	0.0
3	0.9262	450.407	165	0.0
4	0.9551	269.762	140	0.000
5	0.9667	198.648	117	0.000
6	0.9756	145.225	96	0.001
7	0.9834	98.089	77	0.051

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
VOCAB	0.03318	0.29591	0.17034	-0.19510
READING	-0.01044	-0.00769	0.15050	-0.14334
LETTERGP	0.00418	0.19702	0.07904	-0.05724
MATH	0.22487	0.57688	-0.59856	-0.22878
IMPGPA	-0.13676	-0.16477	-0.87480	-0.25449
SELFABIL	0.02694	0.04961	-0.71863	0.44336
FREEINT	-0.01716	-0.07214	0.18906	0.32914
SCHQUAL	0.03510	0.07645	-0.02083	0.01819
OUTLOOK	0.00527	0.08696	0.01596	0.11729
TENCOMM	0.04702	0.13953	-0.14631	0.22344
URBAN	0.02648	0.22616	-0.00199	-0.18706
SIBLINGS	-0.01208	0.07525	0.06921	-0.05510
STUDOCC	0.12513	0.05946	-0.09629	0.16127
FAMILYED	0.08103	-0.08698	0.18572	0.17954
FAMASPR	0.23645	-0.52398	0.13537	-0.90960
PROJED	0.44288	-0.48776	0.03661	0.57184
FAMINCM	0.02837	0.13578	-0.05733	-0.09992
FAMOCC	0.01328	0.00219	-0.15358	0.05119

Table 3.8 (continued)

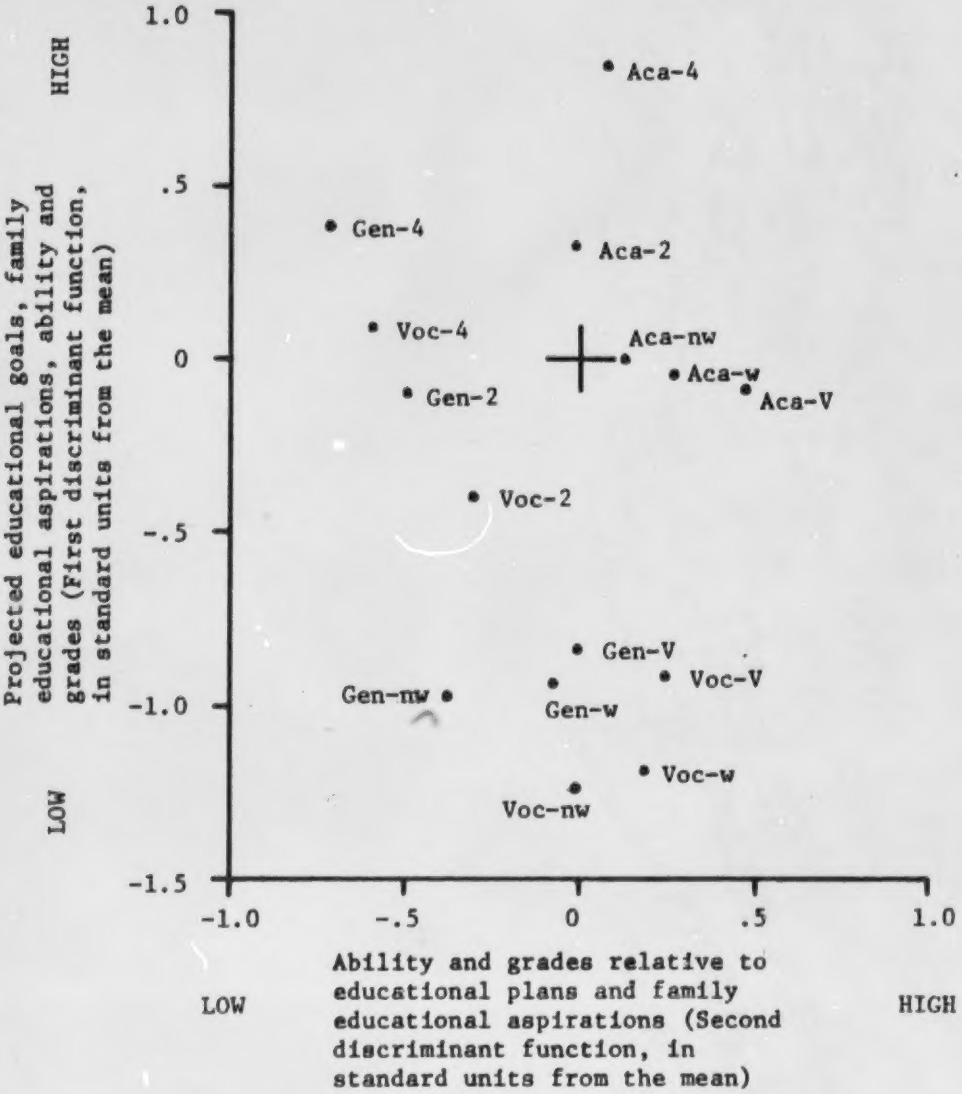
CENTROIDS OF GROUPS IN REDUCED SPACE

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
GROUP 1 G4-YEAR	0.38419	-0.71625	0.04502	0.06733
GROUP 2 G2-YEAR	-0.09651	-0.49824	-0.31064	0.06997
GROUP 3 G-VOCOTH	-0.83551	-0.01431	-0.43608	0.34096
GROUP 4 GWORKING	-0.93023	-0.08253	-0.08705	-0.27119
GROUP 5 GNOTWORK	-0.97300	-0.37594	0.18185	0.04651
GROUP 6 A4-YEAR	0.84536	0.06718	0.09764	0.00285
GROUP 7 A2-YEAR	0.33056	-0.01712	-0.26746	0.01644
GROUP 8 A-VOCOTH	-0.08760	0.46649	-0.15866	0.30503
GROUP 9 AWORKING	-0.04978	0.26211	-0.14361	-0.35915
GROUP 10 ANOTWORK	-0.00498	0.13193	0.03380	-0.05296
GROUP 11 V4-YEAR	0.09215	-0.59797	0.33420	0.07240
GROUP 12 V2-YEAR	-0.39830	-0.30566	-0.14647	0.19799
GROUP 13 V-VOCOTH	-0.90748	0.23531	0.00163	0.48847
GROUP 14 V-WORKING	-1.19363	0.18331	0.19302	0.06279
GROUP 15 VNOTWORK	-1.24477	-0.01735	0.32474	-0.10532

Figure 3.7

Centroids of 15 Curriculum x Primary Activity Groups in Discriminant Space (First Two Discriminant Functions, 18 Base-Year Variables)

Analysis MDA-3



The second function serves to differentiate groups and individuals characterized by plans and aspiration-levels that are high, relative to ability and school grades, from those with the opposite pattern. Thus, the highest group on the second function is comprised of academic curriculum graduates enrolled in vocational or trade school (low aspiration relative to ability), while the three low groups on the function are general and vocational curriculum graduates enrolled in four- or two-year colleges (groups characterized by high aspiration relative to ability).

One of the most compelling inferences to be drawn from the data in Figure 3.7 is that a tremendous degree of prior selection on primary activity related variables is involved in the distribution of individuals to secondary school curricula.

A final multiple discriminant analysis[8] was conducted to discriminate primary activity state by sex (10 groups, by using the 18 Base-Year variables). The results of this analysis,[9] MDA-4, indicated that the correlates of primary activity state were similar within each sex but, as in the analysis by race, there were definite sex-related differences not related to primary activity. The principal function accounted for almost three-fourths of the variance (73.8%, see eigenvalues in Table 3.9) and served to differentiate activity groups within each sex; the second function accounted for about one-fifth of the observed variation and served primarily to distinguish males and females. These effects are clearly visible in Figure 3.8.

Table 3.9

Results of Multiple Discriminant Analysis MDA-4: 10 Groups (5 Primary Activities by Sex) and 18 Base-Year Antecedent Variables

DISCRIMINANT FUNCTION	EIGENVALUE	RELATIVE PERCENTAGE	CANONICAL CORRELATION
1	1.05562	73.77	0.717
2	0.29269	20.45	0.476
3	0.03788	2.65	0.191
4	0.01729	1.21	0.130
5	0.00925	0.65	0.096
6	0.00908	0.63	0.095
7	0.00536	0.37	0.073
8	0.00105	0.19	0.052
9	0.00105	0.07	0.032

FUNCTIONS DERIVED	WILKS' LAMBDA	CHI-SQUARE	DF	SIGNIFICANCE
0	0.3468	5787.422	162	0.0
1	0.7129	1849.456	136	0.0
2	0.9216	446.451	112	0.0
3	0.9565	243.257	90	0.000
4	0.9730	149.549	70	0.000
5	0.9820	99.253	52	0.000
6	0.9909	49.855	36	0.062
7	0.9962	20.627	22	0.544
8	0.9990	5.731	10	0.837

STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3
VOCAB	-0.00268	-0.07075	0.16705
READING	-0.02586	-0.05214	0.06503
LETTERGP	-0.05874	-0.43831	-0.03592
MATH	+0.21409	0.81522	-0.22611
IMPGPA	-0.10654	0.76790	-0.29799
SELFABIL	+0.01084	0.06047	-0.79829
FREEINT	+0.01740	-0.04202	-0.01546
SCHQUAL	+0.03126	0.02131	-0.08999
OUTLOOK	+0.01347	-0.09782	-0.10698
TENCOMM	+0.04857	0.04644	-0.29262
URBAN	-0.00793	-0.05141	0.14127
SIBLINGS	-0.02065	-0.03748	0.07108
STUDOCC	+0.07304	-0.42192	-0.25464
FAMILYED	+0.09689	-0.08195	0.11806
FAMASPR	+0.26000	0.17021	0.88036
PROJED	+0.53679	0.20402	-0.24050
FAMINCM	+0.03788	0.10625	-0.01704
FAMOCC	+0.00401	-0.01844	-0.21812

Table 3.9 (continued)

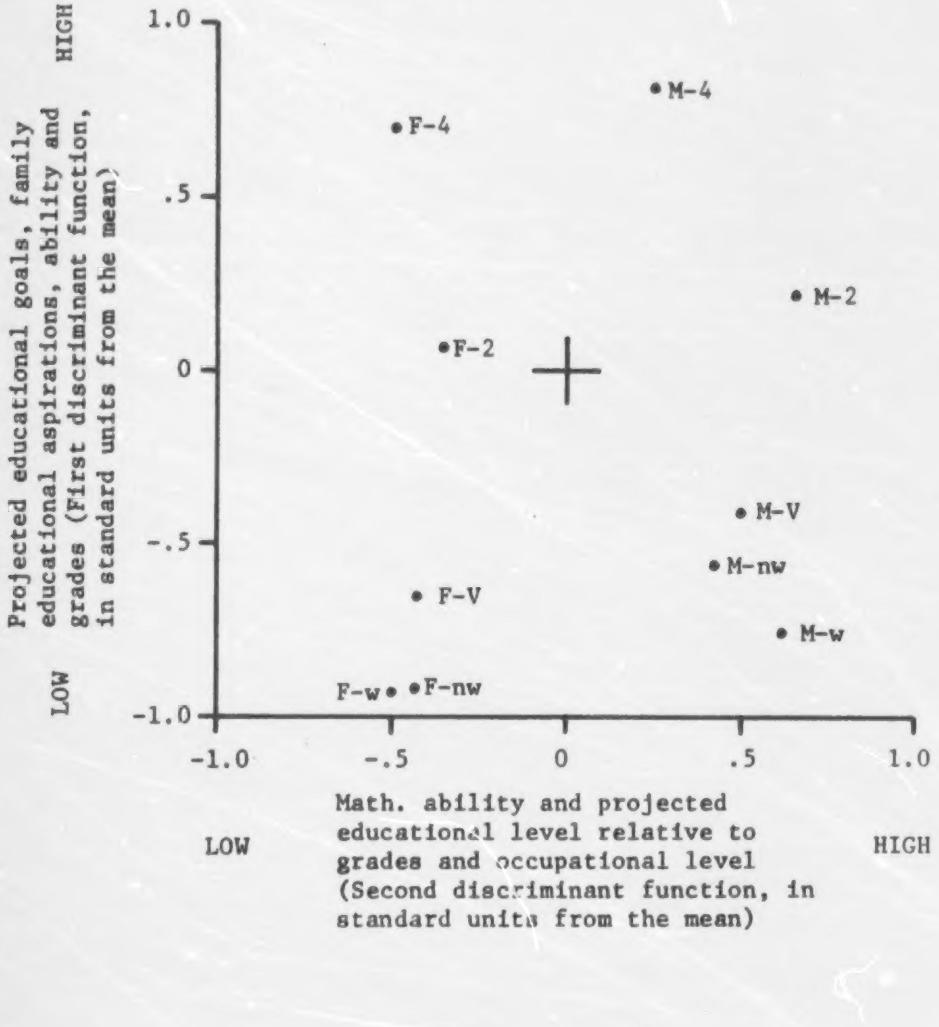
CENTROIDS OF GROUPS IN REDUCED SPACE

	FUNC 1	FUNC 2	FUNC 3
GROUP 1 M4-YEAR	+0.81084	0.25211	0.05009
GROUP 2 M2-YEAR	+0.21089	0.64558	-0.12205
GROUP 3 MVOCOTH	-0.41295	0.50172	-0.45912
GROUP 4 MWORKING	-0.74663	0.62222	0.14628
GROUP 5 MNOTWORK	-0.55820	0.41525	0.05742
GROUP 6 F4-YEAR	+0.70041	-0.49621	0.06629
GROUP 7 F2-YEAR	+0.07224	-0.55563	-0.22966
GROUP 8 FVOCOTH	-0.64581	-0.42733	-0.49585
GROUP 9 F-WORK	-0.93244	-0.49704	0.07286
GROUP 10 FNOTWORK	-0.91359	-0.43920	0.28172

Figure 3.8

Centroids of 10 Sex x Primary Activity Groups in Discriminant Space (First Two Discriminant Functions, 18 Base-Year Variables)

Analysis MDA-4



Weighting of variables and the array of centroids of primary activity groups along the principal discriminant function follows almost identically the pattern established in previous analyses.

The second function assigns high positive weight to mathematics and student's projected educational level and high weight to high school GPA (effective weight is positive even though sign is negative due to inverse scaling), Letter Groups (short term recall) and level of student's planned occupation. Thus, males characterized by high mathematics scores and educational plans relative to their high school grades and recall ability are arrayed toward the high end of the second axis, while females characterized by high recall ability and grades, relative to their mathematical scores, are arrayed toward the low end.

The multi-group, multiple discriminant analyses MDA-1 through MDA-4 are consistent in certain respects. Regardless of sample subdivision by race, sex, or high school curriculum, the first discriminant function served to separate groups by primary activity state. The first function generally was comprised of ability and achievement variables, such as mathematics test scores and high school grades, but additionally contained variables related to the home environment, such as parental aspirations for the respondent's educational future. In all cases, the dominant variables in the first discriminant function were similarly directed, i.e., had the same sign, suggesting that the magnitude of the concerted forces which these variables represent is related to the post-high school activity state of the respondents, with greater magnitudes associated with school attendance and lesser magnitudes associated with working and nonworking status.

Similarities were also to be observed in the second discriminant functions derived in the analyses. Generally, the second discriminant function served to separate the racial, curricular, or sex components of group composition and, interestingly, did so through a trade-off between competing (i.e., oppositely directed) sets of variables. This process was exemplified by Figure 3.8 in which males and females were separated by contrast of ability and projected educational level on the one hand, and high school grades and projected occupational level on the other. As for the first discriminant function, the second usually (but did not always) contain dominant measures associated with the home environment, such as parental aspirations for the respondent's future education.

Taken together, the discriminant analyses suggest that the mechanism associated with primary activity state during the months following high school graduation acts similarly for the races, sexes, and curricular subgroups studied, although these groups differ by level from one another.

3.4 Determinants of Postsecondary School Attendance

In addition to the analyses of the previous section, which suggested some of the environmental, educational, and personal factors associated with postsecondary school attendance after high school, the critical problem of enrollment was given particular attention through a variety of other analyses, largely regressive in nature.

Using the sequential, forced-choice grouping rules of the previous section, regressions were computed to determine which background variables could best predict the respondent's status as a student or nonstudent. The first four analyses, based on the Class of 1972 (total sample[10]), were as follows:

	Criterion Groups	Subsample Size	
A.	Students, any type of institution, vs.	= 1	(7,790)
	Nonstudents (workers plus nonworkers)	= 0	(7,191)
B.	Four-year college enrollees vs.	= 1	(4,286)
	Nonstudents (workers plus nonworkers)	= 0	(7,191)
C.	Two-year college enrollees vs.	= 1	(2,132)
	Nonstudents (workers plus nonworkers)	= 0	(7,191)
D.	Vocational/trade enrollees vs.	= 1	(1,372)
	Nonstudents (workers plus nonworkers)	= 0	(7,191)

In these analyses the respective student groups are contrasted with nonstudents. In each case, the 18-variable base-year battery of independent variables was augmented by sex, race, and curriculum coded as described in Table 3.10. Intercorrelations of the variables, using missing data procedures, provided the basis for stepwise selection of independent variables. In each analysis, five cognitive variables (vocabulary, reading, letter group and mathematics scores from the test battery and imputed high school grade point average) were introduced first and additional variables were selected on a stepwise basis until all variables contributing at least .001 to R^2 had been identified.

Table 3.10 shows the zero-order point biserial coefficients (decimals omitted) reflecting the extent and direction of differences between the respective pairs of outcomes groups. The relative magnitudes of the coefficients reflect the degree of separation of the groups being compared, while signs indicate direction of difference--i.e., positive coefficients indicate an enrolled (or working) group is higher on the independent variable while negative coefficients indicate the opposite (except in the case of the imputed GPA which is inversely scaled with high grades having lowest numerical values; thus, for example, in Analysis A the

Table 3.10

Zero-order Point Biserial Coefficients Reflecting Extent and Direction of Differences between Various Pairs of Outcomes Groups: Total Sample

Independent Variable	Enrolled vs. Not Enrolled	Four-year vs. Not Enrolled	Two-year vs. Not Enrolled	Voc/Trade vs. Not Enrolled
	(A)	(B)	(C)	(D)
VOCAB	33	44	19	07
READING	34	45	19	08
LETTER GRP	29	38	16	08
MATH	40	52	24	10
IMPT GPA	-34	-46	-16	-10
SELFABIL	40	45	29	14
FREE INT	15	20	07	06
SCH QUAL	09	11	06	03
OUTLOOK	21	26	13	07
YRS CMTY	01	01	01	04
URBAN	11	16	09	-02
SIBLINGS	-02	-02	-02	-01
STUD OCC	37	47	26	10
FAMILY ED	30	40	20	07
FAM ASPR	49	63	37	03
PROJ ED	56	68	41	11
FAM INCM	23	30	17	03
FAM OCC	24	32	17	04
RACE White = 1 Other = 0	08	10	04	03
SEX Female = 2 Male = 1	-00	-01	-02	06
CURRIC Academic = 1 Other = 0	47	62	31	15

coefficient of -.34 for imputed GPA indicates that enrolled individuals have higher grades than nonenrolled individuals). The negative coefficient, -.02, for siblings indicates that individuals continuing their education tended to have a lower mean (fewer siblings) than those who were not continuing their education.

The pattern of these zero-order coefficients, of course, is consistent with the patterns of mean differences already evaluated: In Analysis A (enrolled vs. nonenrolled) for example, the variables with the highest zero-order coefficients were projected educational level, family aspiration level for student's education, academic curriculum, and the set of cognitive variables.

The principal differences in zero-order coefficients for the respective student _versus_ nonstudent comparisons were in terms of magnitude rather than sign. Thus, for example, the coefficient for each of the foregoing variables becomes smaller in the successive analyses involving four-year, two-year, and vocational students _versus_ nonstudents.

Zero-order coefficients for race were small but positive, indicating somewhat higher incidence of enrollment _and_ employment for whites than for ethnic minorities.

Zero-order coefficients for sex point up lower incidence of enrollment for women overall and in four- and two-year institutions, but somewhat higher incidence of enrollment in vocational, trade, or other types of postsecondary school.

Results of the multivariate stepwise selection of independent variables are summarized in Table 3.11 which shows, for each analysis, the variables contributing at least .001 to R^2 after forced introduction of the five cognitive variables. The order in which variables were selected

Table 3.11

Variables Contributing to Differentiation of Selected Outcomes Groups as Selected by Stepwise Multiple Point Biserial Regression Analysis: Standard Regression Coefficients, Order of Selection, and Multiple Correlation Coefficients

Independent Variable	Enrolled vs. Not Enrolled	Four-year vs. Not Enrolled	Two-year vs. Not Enrolled	Voc/Trade vs. Not Enrolled
	(A)	(B)	(C)	(D)
ABILITY	137(1)	219(1)	261(1)	082(1)
SELFABIL	071(5)		075(5)	095(3)
FREE INT	034(10)	050(7)		
SCH QUAL				
OUTLOOK				
YRS CMTY	040(8)	040(8)	038(8)	039(8)
URBAN				-039(8)
SIBLINGS				
STUD OCC	061(6)	076(6)	067(6)	
FAMILY ED	063(7)	075(5)	042(9)	055(5)
FAM ASPR	096(4)	156(4)	112(4)	-084(6)
PROJ ED	283(2)	295(2)	203(2)	087(7)
FAM INCM			046(7)	
FAM OCC				
RACE White = 1 Other = 0				
SEX Female = 2 Male = 1	038(9)			064(4)
CURRIC Academic = 1 Other = 0	154(3)	216(3)	116(3)	103(2)
R_{crit} vs. 1,2,3,4,	610	758	458	193
R_{crit} vs. 1,2,3,4,5	616	763	466	203
R_{crit} vs: battery	622	765	473	220

is indicated in parentheses following the standardized regression coefficient associated with the variable in the final set. For the five cognitive variables only the sum of the standard regression coefficients is shown. In addition to the five cognitive variables, the following variables were selected in every analysis:

Projected Educational Level (aspirations plus plans)
Academic Curriculum
Family Aspiration Level for Student's Education
Family Educational Level
Years in the Community

Except in the case of students enrolled in vocational, trade, or other schools, high scores on these variables were associated with enrollment as opposed to nonenrollment in a school or college. Vocational school students were lower on family aspiration level relative to ability and family background than nonstudents. Low level of family aspiration for student's education relative to self-assessed ability to complete college, family education level, and student's projected educational level appears to be a distinctive factor distinguishing the individuals enrolled in a vocational or trade school from their classmates who did not continue their education. Race did not enter any equation in a student versus nonstudent analysis.

Generally speaking, these regression results suggest that race and sex, per se, are not apt to affect the likelihood of participating in postsecondary education after taking into account other variables that are closely associated with continuation of education after leaving high school.

The second set of analyses specifically dealing with the postsecondary enrollment decision used a smaller and somewhat different set of background variables. As before, the dependent variable is defined by attendance at any type of institution, either full time or part time, in October 1972. The independent variables include the following:

Financial need[11]

Desire for college education[12]

High school curriculum (academic = 1, other = 0)

Vocabulary test score

Mathematics test score

Family income level

Parent educational level

Parent occupational level

The first three listed variables are dichotomous, and were given 0,1 codes to reflect the appropriate status; for example, a respondent who expressed a financial need was scored "1" while others were scored "0". The last five variables have underlying "continuous" distributions, even though scored polychotomously. Also included in the model is an independent variable consisting of the difference between the respondent's earnings and his cost of postsecondary education. This variable is simply the respondent's earnings for those who were not enrolled in postsecondary education and, for all respondents, is referred to simply as "net income."

The model used in this analysis is a simultaneous two-equation model of a type frequently found in econometric analyses,[13] where the two equations could be said to represent "demand for higher education," and "supply of labor." One reason underlying this approach is that such a model allows an assessment of the trade-off between the decision to enroll in postsecondary school and that of going to work, that is, the working status of an individual can be assessed as a reason for not continuing education beyond high school and vice-versa. While the initial development of the model was used to evaluate enrollment status in October 1972, with some elaboration of the model, it was possible to incorporate enrollment in October 1972 as a (lagged) variable affecting enrollment in October 1973.

Prior to analysis, those respondents who had not graduated from high school (about one percent of the Class) were removed from the sample; so, also, were respondents of cultural subgroups other than black or white. Four parallel analyses were then conducted, corresponding to blacks and whites, crossed with males and females.

The results of analysis for October 1972 postsecondary enrollment status are summarized in Table 3.12. In general, multiple correlation coefficients were reasonably high. It can be observed that the effects of "financial need" and "educational desire" were pronounced. In particular, financial need, given as a reason for not attending college, held the strongest relationship with actual postsecondary attendance of all variables in the model. Educational desire, as a reason for not working, was the second strongest predictor of enrollment status and, as for financial need, the relationship held for all four subgroups. For black males a mild negative relationship was observable between "net income" and enrollment status, suggesting that those having larger incomes (net of educational expenses) were likely those working and not enrolled.

There was a slight suggestion, for black males, that higher mathematics test scores were associated with enrollment.

For whites of both sexes, but not for blacks, earlier enrollment in the high school academic curriculum was associated with postsecondary enrollment in October 1972.

Table 3.12

Determinants of Postsecondary Enrollment

October 1972

Variable	Male		Female	
	White	Black	White	Black
Constant	.79	.73	.75	.72
	(113.94)	(31.64)	(102.34)	(44.22)
Financial Need	-.74	-.57	-.69	-.51
	(-69.80)	(-15.37)	(-60.73)	(-18.01)
Educational Desire	.13	.18	.18	.28
	(16.76)	(7.32)	(22.49)	(12.45)
Net Income	NS	-.03	NS	NS
		(-3.98)		
Academic Curriculum	.09	NS	.10	NS
	(12.20)		(12.07)	
Vocabulary	NS	NS	NS	NS
Mathematics	NS	.01	NS	NS
		(4.08)		
Family Income	NS	NS	NS	NS
Parent Education	NS	NS	NS	NS
Parent Occupation	NS	NS	NS	NS
R^2	.59	.54	.57	.39
F	2566.81	198.35	2304.12	322.71

Student's t-values in parentheses.

It is also interesting to examine the variables in the model which did not significantly relate to enrollment status. Most surprisingly, parental socioeconomic status variables--income, occupation, and education--did not seem to relate to enrollment status, perhaps because of the stronger and more direct effect of financial need and educational desire. It was also interesting that net income was not generally related to postsecondary enrollment, excepting the mild relationship noted for black males. Similarly, the two ability measures, mathematics and vocabulary, were generally ineffective, with the slight exception of black males, perhaps suggesting that some form of formal postsecondary education is available to persons of diverse ability levels.

The empirical results of the determinants of October 1973 enrollment status are summarized in Table 3.13. The model differs from that used for 1972 enrollment status by the introduction of lagged and current variables, and by the addition of two "other" variables (so identified in Table 3.13).[14] In general, financial need and educational desire, as well as net income are found to be significant determinants. High school curriculum is a significant factor only for white males and females, with students of the academic program more likely to be enrolled. As to the additional effects for students who attended colleges in 1972 we find that educational desire and high school curriculum are important determinants for black females; however, the result suggests that those having a desire for postsecondary education are less likely to have been enrolled at both time periods.[15] In addition, we find that black male students with higher vocabulary scores and white female students with higher mathematics scores are more likely to stay in college. Family income status seems to affect whether a student is staying in college only for black males and females, reflecting the relatively greater financial concerns of blacks. In general, students from households with higher family income are more likely to stay in college.

Table 3.13

Determinants of Postsecondary Enrollment

October 1973

Variable	Male		Female	
	White	Black	White	Black
Constant	.61	.39	.36	.48
	(55.52)	(14.53)	(30.45)	(20.69)
Financial Need	-.33	-.27	NS	-.19
	(-12.52)	(-4.15)		(-3.91)
Educational Desire	.24	.38	.39	.36
	(18.12)	(9.63)	(28.53)	(11.08)
Net Income	-.04	NS	-.04	-.04
	(-17.48)		(-15.67)	(-6.10)
Academic Curriculum	.14	NS	.14	NS
	(11.98)		(10.96)	
Educational Desire and '72 Enrollment	NS	NS	NS	-.13
				(-4.38)
Academic Curriculum and '72 Enrollment	NS	NS	NS	.14
				(4.33)
Vocabulary and '72 Enrollment	NS	.02	NS	NS
		(3.41)		
Mathematics and '72 Enrollment	NS	NS	.01	NS
			(12.33)	
Family Income and '72 Enrollment	NS	.02	NS	.03
		(3.45)		(4.82)
Other variables:				
Current	NS	-.04	NS	NS
		(-3.05)		
Lagged	NS	NS	.06	NS
			(9.28)	
R^2	.30	.26	.37	.27
F	562.19	48.07	618.34	63.53

Student t-values in parentheses.

The results just described were derived from a model, the primary purpose of which was to investigate the contemporaneous interdependence between enrollment status and employment status. While the model was effective in illustrating that such an interdependence does maintain, the issue of intertemporal dependence was but tangentially incorporated in the model. A third set of analyses were therefore designed, paralleling those of the second set, in which intertemporal dependence, the effect of earlier enrollment status on later enrollment status, was emphasized. The model[16] is similar to that used in the second set, but does not require the simultaneous solution of the enrollment status and employment status[17] equations; in this sense, the third set of analyses represent a reduced form of the more general model.

The exogenous variables considered here are those of the previous set of analyses, except for net income (earnings minus educational costs, if any) which is regarded as endogenous (and is therefore excluded) in the current conceptualization. As a lagged variable, however, net income is allowed to enter the regression. The results of these analyses are displayed in Table 3.14 (for 1972 enrollment status) and Table 3.15 (1973 enrollment status and intertemporal dependence).

Participation in the academic high school curriculum and mathematics test scores were seen to be the strongest predictors of October 1972 enrollment status for each of the four subgroups examined. For black males, level of parents' education was also related to enrollment status, with higher levels of parental education associated with greater propensity to be enrolled in 1972.

Other variables did not significantly relate to enrollment status, and it will be observed that multiple correlations are uniformly weak (all with $R^2 < .15$), which suggests that an appreciable portion of the dynamics underlying the enrollment decision is not measured by the variables and/or not fitted by the model.

Table 3.14

Determinants of 1972 Postsecondary School Attendance

(Reduced Model)

Variable	Male		Female	
	White	Black	White	Black
Constant	.49 (34.85)	.46 (11.45)	.52 (41.41)	.63 (32.01)
Academic curriculum	.22 (17.33)	.13 (3.45)	.22 (17.36)	.13 (4.19)
Mathematics	.01 (10.60)	.01 (4.24)	.01 (10.31)	.01 (4.29)
Parent education	NS	.04 (3.43)	NS	NS
R^2	.13	.10	.13	.06
F	410.45	25.40	398.67	33.23

Student's t-values in parentheses. Insignificant regressors not shown.

Table 3.15

Determinants of 1973 Postsecondary School Attendance

(Reduced Model)

Variable	Male White	Male Black	Female White	Female Black
Constant	.47 (42.57)	.42 (15.14)	.31 (27.26)	.44 (22.48)
Academic curriculum	NS	NS	.17 (12.22)	NS
Family income	.13 (9.41)	NS	NS	NS
1972 Enrollment and:				
Academic curric.	NS	NS	NS	.16 (4.99)
Mathematics	.01 (18.73)	.01 (5.38)	.01 (10.20)	NS
Family income	NS	.02 (4.72)	.01 (10.29)	.02 (6.26)
Net income	-.05 (-21.67)	-.04 (-5.54)	-.06 (-19.48)	-.07 (-8.78)
R^2	.22	.15	.26	.17
F	489.90	41.20	468.18	70.39

Student's t-values in parentheses. Insignificant regressors not shown.

The model for enrollment status in October 1973 performed slightly better ($R^2 > .15$ in all cases, and .26 for white females), though the degree of fit would still be described as weak-to-moderate. For respondents who were not enrolled in October 1972, the prediction of October 1973 enrollment is difficult. However, in the case of white males from higher income families, there is a tendency for enrollment to occur by October 1973 if not enrolled at the earlier date. In the case of white females not enrolled in 1972, there seemed to be a relationship between curriculum and enrollment in 1973; white female graduates of the academic curriculum tended to enroll by October 1973, when not enrolled earlier.

Intertemporal effects were generally strong. Of those enrolled in October 1972, those having high mathematics test scores and graduates of the academic curriculum were prone still to be enrolled in October 1973; so, also, were students from households characterized by higher family incomes.

The income variable (net of educational costs) was applied to the lagged component of the (reduced) 1973 model, but was not allowed to enter as an earlier exogenous variable, as previously explained. This variable was significant and suggested that students with higher incomes were prone to have discontinued enrollment in 1972; a result which seems intuitively reasonable since such students would likely be more interested in work than in education, or their needs for money would likely be greater than those of other students. This interpretation should be tempered with some caution, since the endogenous/exogenous character of the net income variable renders its propriety questionable. For this reason, and because of high nonresponse rates on the items from which the variable is generated, we have dropped the variable in most later analyses.

3.5 Determinants of Educational Progress

Educational Involvement of Students—Hours of Study

The reduced model of the previous section was applied to the measurement of educational involvement of students, defined by hours spent in study. The model no longer includes income net of educational expenditures for reasons previously cited, but other exogenous variables remain as before. The results of these analyses are presented in Table 3.16 (for those enrolled in 1972) and Table 3.17 (intertemporal effects and 1973 enrollment).

As the first table shows, hours of study during the freshman year (1972) are fairly constant and few exogenous variables attained significance. We obtain, however, the expected result that brighter students tended to study less than others. For example, those from the academic curriculum, and white males with higher mathematics scores indicated relatively lower investments in study. For white females, those from higher income families also expressed lower investments in study. Since the model fitted poorly, however, interpretation should be made with caution.

Table 3.16

Determinants of Hours of Study in 1972

Variable	Male		Female	
	White	Black	White	Black
Constant	21.04 (58.03)	20.11 (34.18)	22.18 (65.11)	NS
Academic curriculum	NS	-2.07 (-2.24)	-1.86 (-6.54)	NS
Mathematics	-.13 (-6.56)	NS	NS	NS
Parent occupational status	NS	NS	-.04 (-6.75)	NS
R^2	.01	.01	.03	--
F	43.04	5.00	54.97	--

Student's t-values in parentheses. Insignificant regressors not shown; none were significant for black females.

Table 3.17

Determinants of Hours of Study in 1973

Variable	Male		Female	
	White	Black	White	Black
Constant	16.46 (55.62)	4.76 (12.60)	15.82 (48.16)	16.31 (73.26)
Academic curriculum	NS	59.10 (51.83)	NS	NS
Vocabulary	NS	NS	NS	5.68 (53.59)
Mathematics	-.70 (-31.58)	NS	-.59 (-24.19)	NS
Family income	NS	1.73 (44.17)	NS	NS
Parent education level	NS	-12.63 (-62.36)	NS	-12.91 (-75.01)
1972 Hours of study and:				
Academic curriculum	NS	-3.16 (-53.00)	NS	NS
Vocabulary	NS	NS	NS	-.21 (-46.62)
Mathematics	.04 (47.48)	NS	.04 (41.13)	NS
Parent education level	NS	.80 (70.26)	NS	.72 (80.29)
Parent occupation	NS	NS	NS	-.01 (-42.15)
R^2	.40	.94	.36	.95
F	1129.33	1079.40	847.49	1904.07

Student's t-values in parentheses. Insignificant regressors not shown.

The lack of systematic association between the exogenous variables and hours of study was dramatically reduced for 1973 data with the introduction of lagged variables. In general, the effect of high school academic curriculum was markedly reduced over the same effect in 1972, and the variable was now effective only for black males. The data show a distinct difference in the strengths of various regressors as they relate to blacks and whites and, comparatively, sex differences are relatively minor.

The significant curricular effect found for black males relates negatively to 1972 hours of study; that is, the effect is less pronounced for those who studied more in 1972. In similar fashion, the effect of vocabulary test scores, significant only for black females, can be seen to decrease as previous hours of study were greater. Mathematics test scores were significant only for whites and showed a negative relationship with hours of study in 1973; however, this relationship reverses for those whose 1972 hours of study were high in comparison to others, which suggests a diminution of the effect of mathematical ability as hours of study increase.

The level of parental education was significant only for blacks. The initial effects for 1973 suggest that those from better educated parents tended to study less, but that the effect could be mediated by a history of having studied at above-average rates.[18]

Educational Progress--Postsecondary Grade Point Averages

Educational progress, in the sense of postsecondary grade point averages, was regressed on the exogenous variables of the previous sections, and was incorporated in a more holistic structural model of educational progress as well. The recursive (reduced) model results are presented in Tables 3.18 and 3.19.

In general, we find that although high school GPA is somewhat predictable from mathematics and vocabulary test scores, the freshman GPA is less easily predicted. Apart from verbal and mathematical skills, the only significant predictors of high school GPA (academic curriculum and parental education level) were found for black females. The estimated effect of parent education, negative in direction, was unexpected, and may be a methodological artifact.[19]

Table 3.18

Reduced Model Determinants of High School GPA

Variable	Male		Female	
	White	Black	White	Black
Constant	-10.99	-10.53	-9.30	-8.72
	(-54.23)	(-31.79)	(54.10)	(-21.02)
Academic curriculum	NS	NS	NS	.77
				(1.99)
Vocabulary	.18	NS	.14	.12
	(9.08)		(7.63)	(2.16)
Mathematics	.17	.21	.17	.18
	(14.10)	(7.21)	(14.55)	(5.99)
Parent educational level	NS	NS	NS	-.28
				(-2.40)
R^2	.27	.24	.29	.26
F	254.96	51.97	272.47	22.79

Student's t-values in parentheses. Insignificant regressors not shown.

Table 3.19

Reduced Model Determinants of First Postsecondary Year GPA

Variable	Male		Female	
	White	Black	White	Black
Constant	-4.47	-4.18	-4.15	-4.14
	(-61.81)	(-24.14)	(-60.14)	(-47.78)
Vocabulary	.05	-.05	.07	.04
	(7.78)	(-2.11)	(10.41)	(2.80)
Mathematics	.03	NS	.03	NS
	(8.08)		(7.55)	
Parent educational level	NS	.13	NS	NS
		(3.09)		
High School GPA and Mathematics	NS	NS	NS	.001
				(3.02)
R^2	.07	.04	.09	.05
F	118.34	6.09	152.24	12.71

Student's t-values in parentheses. Insignificant regressors not shown.

The model fitted grades for the first postsecondary year of school poorly, with R^2 under .10 in all four cases. Vocabulary and mathematics test scores were still significant predictors, but the sign of vocabulary scores was negative, which is difficult to accept unless due to a Type I error. The effect of parent educational level seemed to have a positive effect on the GPAs of black males during their first postsecondary year.

The lagged variable, high school GPA, produced only one significant effect, in concert with mathematics test scores for black females. The direction of this effect suggests a positive association between high school GPA and mathematics test scores, with a subsequent positive interactive effect on postsecondary GPA.

Structural Analysis of Educational Progress

The several analyses previously developed are complicated by the effects of collinearity among the independent variables, and additionally, since they represent separate fittings of similar models using a variety of dependent variables, tend to produce a disunified picture of educational progress and its concomitants. To avoid these problems a complex structural, or path, model[20] of postsecondary progress, based on all respondents supplying information on grades and credits earned was developed. The model includes not only postsecondary GPA, but number of courses completed, and measures of educational satisfaction. The results of the analysis are schematized in Figure 3.9 and tabled in Table 3.20. One interesting aspect of this model is that the two SES constructs and amount of money available have little or no impact on number of post-high school courses completed, indicating that financial support is not of great consequence with respect to the number of courses completed. It is encouraging to note that racial group membership is also not important in determining post-high school educational progress. It would seem that individuals in this subsample (those individuals that have participated in some kind of post-high school training or education) regardless of racial group membership do not tend to drop out of their courses for lack of sufficient financial backing.

Post-high school educational status apparently has only three significant determinants, (1) past academic achievement, (2) post-high school grades, and (3) educational plans; yet they explain a relatively minor part of the variance. Inspection of the means of the satisfaction indices shows that most individuals express some modicum of dissatisfaction on all four indices. When the satisfaction indices are ranked in order of least to most dissatisfied, we have amount of money available ($\bar{x} = 3.38$); development of work skills ($\bar{x} = 3.82$); ability, knowledge, and personal qualities of the teacher ($\bar{x} = 3.88$); and intellect growth ($\bar{x} = 4.03$). In general, one would conclude that the students are generally dissatisfied, at least to some extent, with all phases of their post-high school educational training and/or education, yet dissatisfaction does not seem to manifest itself in "dropping out" behavior as measured by courses completed.

Figure 3.9

Structural Model of Post-High School Educational Progress

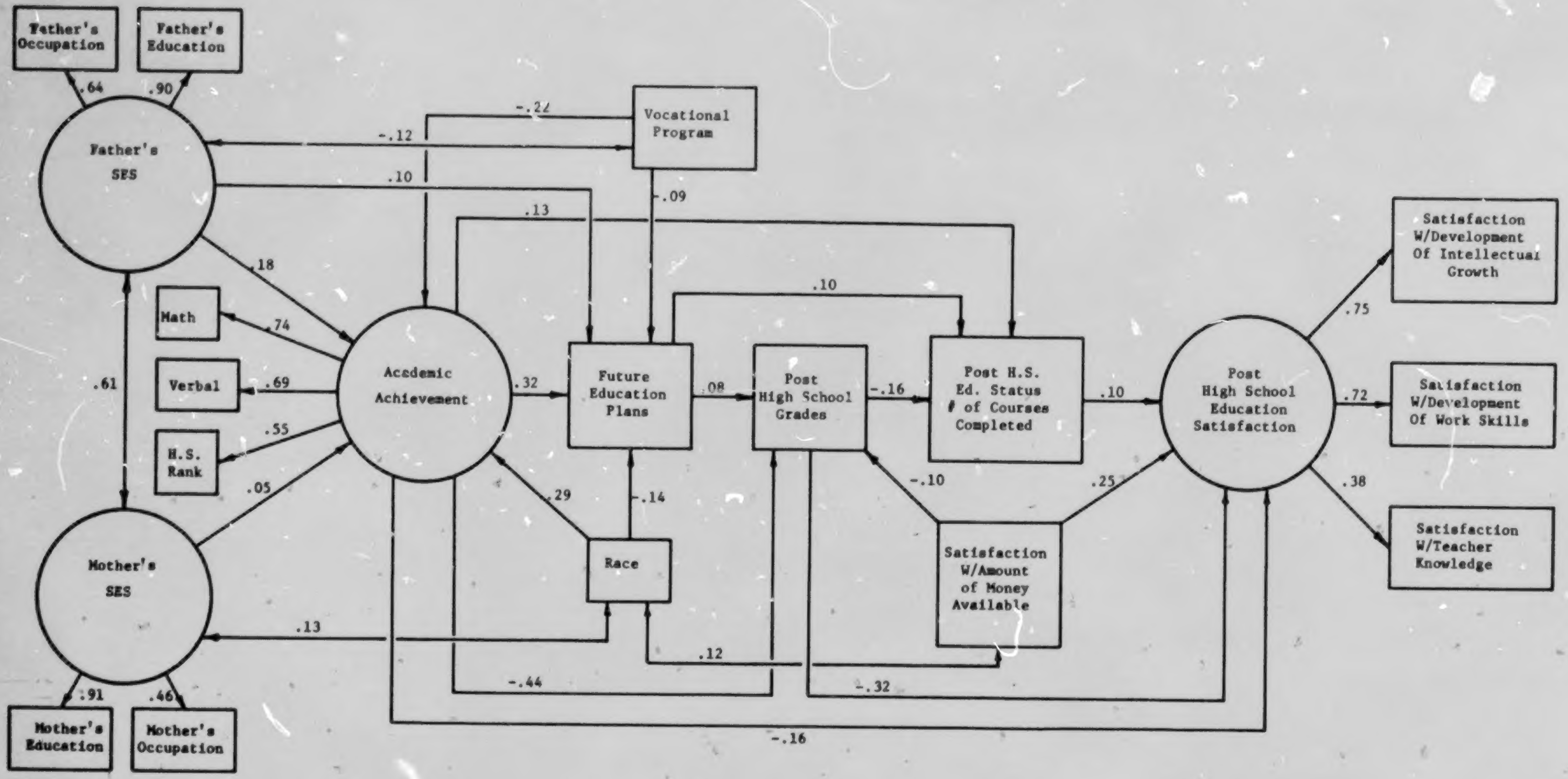

Father's Occupation
Father's Education
.64
.90
Father's SES
-.22
-.12
.10
Vocational Program
-.09
.13
.18
.61
Math
.74
Verbal
.69
H.S. Rank
.55
.05
Academic Achievement
.32
Future Education Plans
.08
Post High School Grades
-.16
Post H.S. Ed. Status # of Courses Completed
.10
.10
Post High School Education Satisfaction
.75
Satisfaction W/Development Of Intellectual Growth
.72
Satisfaction W/Development Of Work Skills
.38
Satisfaction W/Teacher Knowledge
.29
-.14
Race
-.10
.25
Satisfaction W/Amount of Money Available
Mother's SES
.13
.12
-.44
-.32
-.16
.91
.46
Mother's Education
Mother's Occupation

Table 3.20

Direct and Indirect Effects of Post-High School Educational Progress

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Academic Achievement (R = .47)			
Father's SES	.18		.18
Mother's SES	.05		.05
Vocational Program	-.22		-.22
Race	.29		.29
Satisfaction with money available	.00		.00
Future Educational Plans (R = .38)			
Father's SES	.10	.06	.16
Mother's SES	.04	.02	.06
Vocational Program	-.09	-.07	-.16
Race	-.14	.09	-.05
Satisfaction with money available	.00		.00
Academic Achievement	.32		.32
Post-High School Grades (R = .41)			
Father's SES	.05	-.06	-.01
Mother's SES	-.01	-.02	-.03
Vocational Program	-.02	.08	.06
Race	.03	-.13	-.10
Satisfaction with money available	-.10	.00	-.10
Academic Achievement	-.44	.03	-.41
Future Educational Plans	.08		.08
Post-High School Education Status (R = .31)			
Father's SES	-.03	.04	.01
Mother's SES	.02	.02	.04
Vocational Program	-.06	-.05	-.11
Race	-.00	.04	.04
Satisfaction with money available	.05	.02	.07
Academic Achievement	.13	.10	.23
Future Educational Plans	.10	-.01	.09
Post-High School Grades	-.16		-.16

Table 3.20 (Continued)

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Post-High School Education Satisfaction (R = .43)			
Father's SEs	-.03	-.02	-.05
Mother's SES	-.04	.01	-.03
Vocational Program	.02	.00	.02
Race	.00	-.01	-.01
Satisfaction with money available	.25	.03	.28
Academic Achievement	-.16	.15	-.01
Future Educational Plans	.03	-.02	.01
Post-High School Grades	-.32	-.02	-.34
Post-High School Education Status	.10		.10

The significant explanatory variables of the construct "post-high school education satisfaction" are academic achievement (b* = -.16), post-high school grades (b* = -.32), satisfaction with amount of money available (b* = .24), and number of courses completed. It is interesting that post-high school grades has a large negative path coefficient on post-high school educational satisfaction, indicating that the able students are those who are more likely to be dissatisfied with their post-high school education. Inspection of the loadings on the satisfaction construct itself indicates that the salient variables are satisfaction with development of intellectual growth and work skills, while satisfaction with teacher knowledge has much less saturation on the factor. This pattern of factor loading, when considered in light of the significant explanatory variables, suggests that those students who are academically capable in post-high school courses are more satisfied with how the teacher is teaching than with what the teacher is teaching. It is quite possible that most first year post-high school educational programs typically require a number of basic survey courses which may not appeal to the more able students. In conclusion, then, we can say the more able individuals tend to be less satisfied with their post-high school education and training, particularly with respect to the development of their work skills and intellectual growth.

The more able students also tend to report that they are somewhat dissatisfied with the amount of money available. However, neither their dissatisfaction with amount of money available nor their dissatisfaction with what they are learning has any appreciable relationship with the number of courses they have completed.

Neither racial group membership nor whether or not one was in the high school vocational program has any appreciable effect on either number of courses completed or satisfaction with the education being received. There is a tendency for blacks to report less satisfaction with the "amount of money available" and, while this variable doesn't seem to affect courses completed during the first year, it may well lead to "drop out" behavior following the first year, perhaps at a differential rate for blacks. Race has a significant negative path coefficient ($b^* = -.14$) on level of educational plans[21] indicating that, when SES and past achievement are controlled, blacks tend to aspire to a higher educational level than whites.[22] Since the mean SES level is higher in this model than in others to be presented, it would seem that blacks from lower SES families, compared to middle SES blacks, are likely to have unrealistic occupational aspirations relative to whites. This result should not be confused with the fact that, when blacks are compared with each other (as in the relations between base-year variables), there is a more consistent rank ordering of ability with planned occupation and education than for whites. In summary then, it would seem most individuals pursue an educational or training program one year out of high school relatively independently of whether they are satisfied with either the funds available or what is being taught. It remains a question, however, whether all these individuals will continue into the second year in light of their relative dissatisfaction.

3.6 Determinants of Employment Status

In Chapter 2 some descriptive comparison of those employed with those not employed were made, but little attempt was made to establish background characteristics, or determinants, of employment status. As for postsecondary enrollment status, the problem of employment status has been approached from a variety of viewpoints. The first approach has already been discussed in the multiple discriminant analysis of primary activity states (Section 3.3), which illustrated that not-enrolled workers and nonworkers were characterized by low family and personal educational ambitions as well as low academic ability and performance. It was also seen that these characteristics differed in level according to race, sex, and curriculum, but that within each such group the characterization maintained.

A sequential, forced-choice "primary activity" classification scheme removed working students from consideration in those analyses. We continue the development by effecting a comparison of not-enrolled workers and not-enrolled nonworkers in October 1972, using the set of 18 base-year variables defined in Section 3.2. The analysis was conducted by stepwise multiple point biserial regression, and the results are displayed in Table 3.21. The first numerical column of Table 3.21 displays the point biserial coefficients of correlation between the criterion (working either full or part time is coded "1", while nonworking is coded "0") and the associated independent variable. The last column of the table provides standard regression coefficients for those variables which, according to the stepwise procedure, were significant. Figures in parentheses represent the order in which the variables were selected into the final regression equation. At the bottom of the last column are the multiple correlation coefficients between (a) the four scores from the base year Student Test Battery, (b) the four scores from the Student Test Battery, plus the imputed high school GPA (a reflected scale, i.e., high GPA values correspond to low grades), and (c) the four test scores, imputed GPA, the 18 base year variables, and race, sex, and curriculum. The sample contained 5,323 usable workers and 1,763 usable nonworkers.

Table 3.21

Differentiation of Working and Nonworking (Not-Enrolled) by 18 Base Year Variables, Race, Sex, and Curriculum

Independent Variable	Point Biserial Coefficients	Standard Regression Coefficients
VOCAB	.06	
READING	.05	
LETTER GRP	.08	.167(1)
MATH	.10	
IMPT GPA	-.01	
SELFABIL	.00	
FREE INT	.00	
SCH QUAL	.06	.042(7)
OUTLOOK	.03	
YRS CMTY	.04	
URBAN	.00	
SIBLINGS	-.02	
STUD OCC	-.11	-.077(4)
FAMILY ED	-.02	-.042(8)
FAM ASPR	-.05	-.049(5)
PROJ ED	-.04	
FAM INCM	.09	.063(6)
FAM OCC	.01	
RACE White = 1 Other = 0	.14	.080(3)
SEX Female = 2 Male = 1	-.12	-.118(2)
CURRIC Academic = 1 Other = 0	-.02	
R_{crit} vs. 1,2,3,4		.214
R_{crit} vs. 1,2,3,4,5		.228
R_{crit} vs. battery		.231

Both race and sex, as well as measured ability, emerged as critical variables. Although the zero-order coefficient for race is slightly lower than that for sex, in the equation sex (negatively weighted) has a higher weight than race. Individuals holding a job in October 1972, as compared to those not holding a job, were more likely to be white males of somewhat higher ability and somewhat lower levels of personal and family educational and occupational attainment and aspiration. It was earlier noted that, while race and sex did not seem to affect the likelihood of participating in postsecondary formal education, they do seem to have a bearing on participation in the labor market. The nonworking group, of course, includes a number of women who were homemakers, many of whom can be expected later to enter the job market.

This interpretation must be confined to those workers and nonworkers who were not simultaneously attending school. To develop a more generalized picture of the factors distinguishing workers from nonworkers three sets of analyses were performed: first, a conjoint evaluation of school participation and work participation, using the full econometric model; second, an evaluation of employment status ignoring enrollment status, using the reduced form of the econometric model; and third, a more comprehensive structural model of employment status using path analysis.

Full Econometric Model

The full econometric model[23] is a simultaneous solution of two equations; one regarding enrollment status, the other regarding employment status. The employment status component of the full model uses the same variables as for enrollment status.

Results of the analysis for October 1972 employment status are given in Table 3.22. The only significant variables relating to employment status were "educational desire" (indications of a desire for education given as a reason for not working by the respondent) and net income (earnings net of educational costs). The model fitted the data reasonably well (R^2 ranging from .36 to .61), and fitted the data for whites somewhat better than that for blacks. The results suggest that the primary determinants of employment status are (a) whether the desire for postsecondary education is sufficiently strong to forego job opportunity, and (b) whether financial need is so great as to require employment. It can also be noted that the mathematics test score from the Student Test Battery attained significance for black females, suggesting that the more mathematically able black females may be more likely to hold jobs during the few months following high school graduation.

Table 3.22

Determinants of 1972 Employment Status

Variable	Male		Female	
	White	Black	White	Black
Constant	.85 (206.47)	.64 (31.55)	.71 (115.90)	.46 (25.84)
Educational desire	-.85 (-109.67)	-.63 (-20.79)	-.69 (-72.03)	.55 (-23.00)
Net income	NS	.02 (5.12)	.03 (16.30)	.03 (7.73)
Mathematics	NS	NS	NS	.01 (7.95)
R^2	.61	.38	.54	.36
F	12,028.39	353.49	4,462.09	285.12

Student's t-values in parentheses. Insignificant regressors not shown.

The full model evaluation of October 1973 employment status also incorporates employment status in October 1972 as a lagged variable, and uses a derived variable which indicates net income, weighted by educational expenditures, for persons not enrolled in school in October 1973. The derived variable should therefore suggest financial needs as a reason for not attending school. The results of the analysis are presented in Table 3.23, where the derived variable is called "financial need."

As the table indicates, educational desire related significantly and negatively to employment in all four subgroups. The financial need variable was significant only for blacks; however, the negative sign for black females was unexpected, and should suggest that black females from poorer families may be less likely to hold jobs (this may or may not be true--we have been unable to locate ancillary data which could shed light on the issue). The effects of net income, and of net income and earlier employment status were generally significant, with some negative coefficients in the case of blacks. The pattern of signs suggests that new black male entrants to the job market tend to experience lower-than-average wages, and that black females who were employed in October 1972, and whose earnings were low, tended also to be employed in October 1973. Mathematics test scores seemed, for white females, to be related to employment at both points in time, as did level of parents' education for black females.

Table 3.23

Determinants of 1973 Employment Status

Variable	Male		Female	
	White	Black	White	Black
Constant	.83	1.19	.62	-.14
	(187.95)	(51.76)	(66.29)	(-3.98)
Educational desire	-.81	-.65	-.69	-.51
	(-88.40)	(-24.15)	(62.21)	(-20.44)
Net income	NS	-.80	.04	.53
		(-29.36)	(22.74)	(21.79)
Financial need	NS	.62	NS	-.32
		(30.19)		(-18.78)
1972 Employment Status and:				
Net income	.02	.83	NS	-.47
	(13.77)	(30.78)		(-19.99)
Mathematics	NS	NS	.01	NS
			(14.47)	
Parent education level	NS	NS	NS	.16
				(20.44)
R^2	.59	.62	.48	.46
F	5,385.79	471.94	2,379.97	267.48

Student's t-values in parentheses. Insignificant regressors not shown.

Reduced Econometric Model

The reduced econometric model does not rely on the simultaneous fitting of enrollment status, and emphasizes, for 1973 data, the intertemporal dependence of employment in 1973 upon employment status in 1972. The model fitted the 1972 data poorly, and the 1973 data but little better. Nonetheless, some results of interest were found.

Employment status in October 1972 was most strongly predicted by high school curriculum, with those from the academic curriculum less likely than others to be employed. Parent education level affected employment status only for whites, with offspring of more highly educated persons less likely to be employed. For black females the model failed to fit (Table 3.24).

Table 3.24

Determinants of 1972 Employment Status (Reduced Model)

Variable	Male White	Male Black	Female White	Female Black
Constant	.87 (16.81)	.58 (34.68)	.77 (58.62)	NS
Academic curriculum	-.22 (-19.57)	-.15 (-4.37)	-.17 (-14.39)	NS
Parent educational level	-.04 (-12.98)	NS	-.04 (-13.45)	NS
R^2	.09	.02	.07	--
F	383.57	19.12	300.85	--

Student's t-values in parentheses. Insignificant regressors not shown.

The evaluation of employment status in October 1973 suggested that high school curriculum and parent occupation was related to employment in October 1973 of those not employed earlier, but only for males. There was no corresponding finding on any variable for females. For those who were employed in October 1972, the most significant determinant of continued employment in October 1973 was income, net of educational cost (if any). In addition to this effect, the mathematics test score seemed to relate to job-holding at both time points for white males; the direction of the effect suggests that higher mathematical ability is associated with discontinuance of employment by October 1973 for those employed earlier. For white females and black males, family income seemed to affect continuance of employment; the direction of the effects suggesting that higher family incomes were associated with discontinuance of employment. The results for black males contain a number of offsetting effects and should be interpreted with some caution.

Table 3.25

Determinants of 1973 Employment Status (Reduced Model)

Variable	Male		Female	
	White	Black	White	Black
Constant	.76 (83.68)	.64 (19.32)	.70 (77.21)	.52 (42.52)
Academic curriculum	-.12 (-10.19)	NS	NS	NS
Family income	NS	.02 (3.96)	NS	NS
Parent educational level	NS	.08 (4.28)	NS	NS
Parent occupation level	NS	-.02 (-10.12)	NS	NS
1972 Employment Status and:				
Mathematics	-.01 (-10.76)	NS	NS	NS
Family income	NS	-.03 (-6.43)	-.01 (-11.23)	NS
Parent educational level	NS	-.13 (-7.29)	NS	NS
Parent occupation level	NS	.02 (12.15)	NS	NS
Net income	.07 (35.74)	.07 (13.42)	.09 (34.56)	.07 (10.66)
R^2	.21	.25	.16	.06
F	663.00	54.49	715.12	113.64

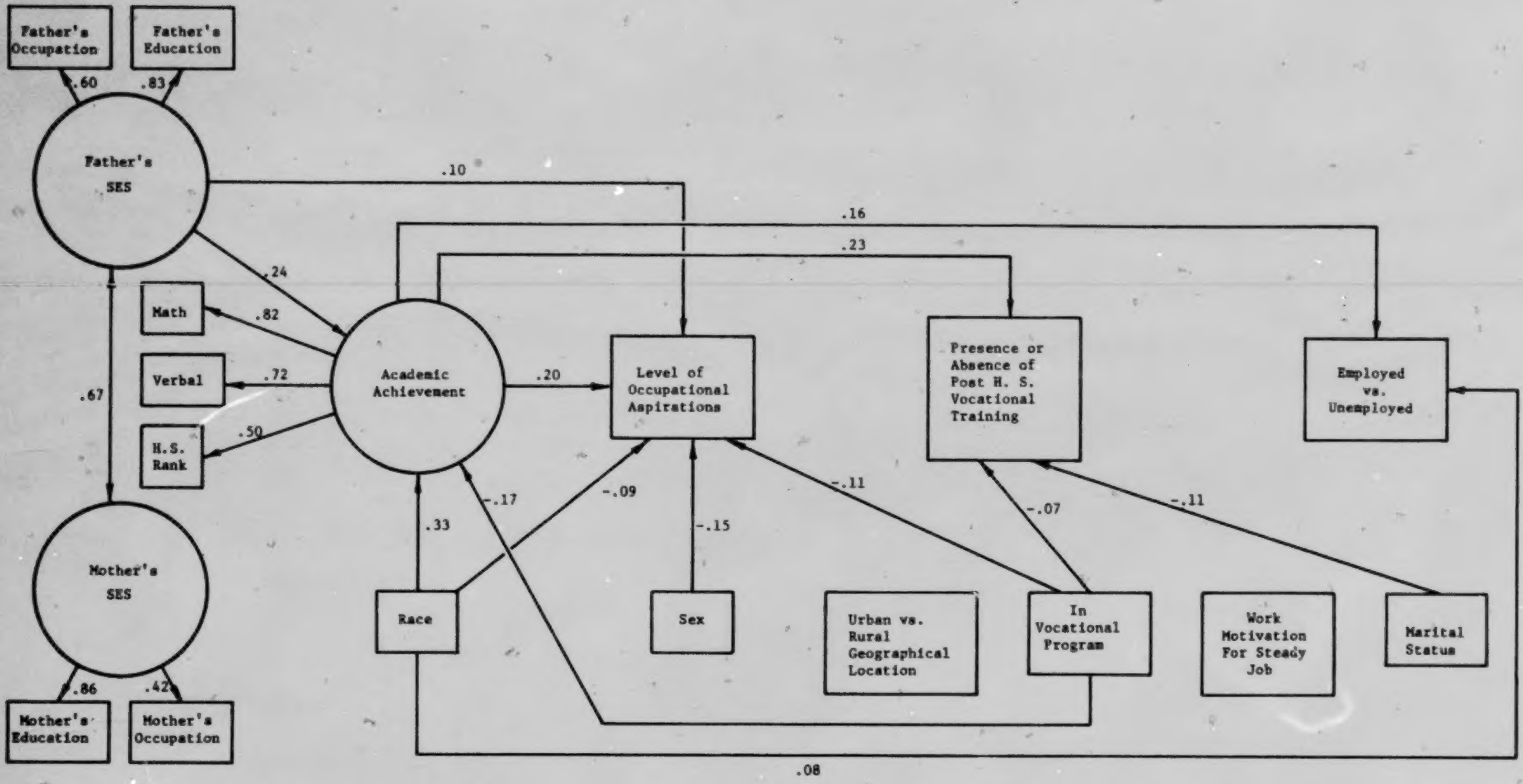
Student's t-values in parentheses. Insignificant regressors not shown.

Structural Determination of Employment Status

The structural analysis of employment status is depicted in Figure 3.10, with associated statistics in Table 3.26. This analysis was conducted only for those respondents who indicated they were working, or else indicated they were not working but were looking for work. Since the primary endogenous variable (employment status) is dichotomous, and since the proportion working far outweighs the proportion looking for work, a

Figure 3.10

Structural Model of Employment Status


Father's Occupation
Father's Education
.60
.83
Father's SES
.10
.16
.23
.24
Math
.82
Verbal
.72
H.S. Rank
.50
.67
Academic Achievement
.20
Level of Occupational Aspirations
Presence or Absence of Post H. S. Vocational Training
Employed vs. Unemployed
-.17
.33
-.09
-.15
-.11
-.07
-.11
Mother's SES
Race
Sex
Urban vs. Rural Geographical Location
In Vocational Program
Work Motivation For Steady Job
Marital Status
.86
.42
Mother's Education
Mother's Occupation
.08

random subsample of the former was drawn so as to obtain an equal number of individuals in each group. Using groups of equal size should prevent attenuation of the product moment correlation coefficient. Thus, the model was analyzed with 1,361 individuals in each group.

Table 3.26

Direct and Indirect Effects of Employment Status

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Academic Achievement (R = .51)			
Father's SES	.24		.24
Mother's SES	.01		.01
Race	.33		.33
Sex	-.00		-.00
Urban vs. Rural	.05		.05
In Vocational Program	-.17		-.17
Motivation to Work	-.06		-.06
Marital Status	-.05		-.05
Level of Occupational Aspirations (R = .35)			
Father's SES	.10	.04	.14
Mother's SES	.06	.00	.06
Race	-.09	.07	-.02
Sex	-.15	-.01	-.16
Urban vs. Rural	.02	.01	.03
In Vocational Program	-.11	-.03	-.14
Motivation to Work	.01	-.01	-.00
Marital Status	-.04	-.01	-.05
Academic Achievement	.20		.20

Table 3.26 (Continued)

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Presence or Absence of Post-High School Vocational Training (R = .35)			
Father's SES	.06	.06	.12
Mather's SES	.05	.01	.06
Race	-.01	.07	.06
Sex	-.01	-.01	-.02
Urban vs. Rural	.06	.01	.07
In Vocational Program	-.07	-.05	-.12
Motivation to Work	.03	-.01	.02
Marital Status	-.11	-.01	-.12
Academic Achievement	.23	.01	.24
Level of Occupational Aspirations	.05		.05
Employed vs. Unemployed (R = .22)			
Father's SES	.00	.04	.04
Mother's SES	-.04		-.04
Race	.08	.06	.14
Sex	.04		.04
Urban vs. Rural	-.01	.01	.00
In Vocational Program	.02	-.02	-.00
Motivation to Work	.03	-.01	.02
Marital Status	.00	-.01	-.01
Academic Achievement	.16	-.01	.15
Level of Occupational Aspirations	-.02	.00	-.02
Post-High School Vocational Training	.03		.03

Inspection of Figure 3.10 and Table 3.26 indicates that the more able, nonmarried individuals who were not in a high school vocational program were somewhat more likely to take part in post-high school vocational training.[24] However, whether they took part in post-high school vocational training had no apparent effect on whether they were employed at that time.

In fact, with the exception of academic achievement and to a lesser extent, race, there is little in the model which has a direct effect on whether one is employed or not employed. It is unfortunate that when ability and SES are held constant, whites are somewhat more likely to be employed.[25] What is interesting here is what is not related to employment status, e.g., attitudes toward having a steady job, urban-rural geographic location, and whether or not one was in a high school or post-high school vocational program. One curious relationship which was found was the negative correlations ($r = -.15$) between SES and importance of holding a steady job. It would seem that the higher the individual's SES the less likely he or she is to consider simply "having a steady job" as an important goal.[26]

In conclusion, one can say the "brighter" individuals are somewhat more likely to be employed. Reported attitudes, marital status, urban-rural geographic location, participation in high school and post-high school vocational programs, all have little or no effect on whether one is employed.

3.7 Determinants of Hours of Work

The determinants of hours of work supplied by employed Class members were examined using the reduced form of the econometric model, using the same exogenous variables as before. The dependent, or endogenous, variable is represented by hours per week of labor supplied by those employed in October 1972 and in October 1973. In the case of 1973 data the model involves 1972 data as a lagged variable.

The regression coefficients and associated Student's t-statistics are presented in Table 3.27 for the determinants of hours of work supplied in 1972. In general, the results resemble those of the reduced form employment status model (Table 3.24). Graduates of the academic high school curriculum generally spent fewer hours working in 1972 than did graduates of other curricula; a result which holds for all four race x sex subgroups. In addition, for whites, there is a tendency for respondents with well-educated parents to supply less labor. For males, both black and white, mathematics test scores are negatively associated with hours of work. In concert, these results suggest an educational orientation of more academically able respondents, with an attendant decline in their work orientation.

Table 3.27

Determinants of Hours of Work in October 1972

(Reduced Model)

Variable	Male		Female	
	White	Black	White	Black
Constant	44.81	38.77	38.23	31.39
	(79.64)	(53.84)	(85.59)	(48.79)
Academic curriculum	-7.11	-5.41	-8.24	-6.46
	(-15.11)	(-4.00)	(-20.08)	(-5.01)
Mathematics	-.26	-.34	NS	NS
	(-8.03)	(-3.61)		
Parent educational level	-.87	NS	-1.06	NS
	(-7.36)		(-8.75)	
R^2	.15	.08	.14	.04
F	249.56	25.08	312.57	25.10

Student's t-values in parentheses. Insignificant regressors not shown.

Table 3.28

Determinants of Hours of Work in October 1973 (Reduced Model)

Variable	Male		Female	
	White	Black	White	Black
Constant	40.23 (99.37)	38.28 (61.09)	37.21 (130.69)	31.94 (34.26)
Academic curriculum	-11.27 (-12.33)	NS	NS	NS
Mathematics	NS	NS	-1.51 (-56.41)	NS
Family income	-1.29 (-22.68)	-2.84 (-18.94)	NS	-1.41 (-5.40)
Parent educational level	NS	NS	NS	-2.54 (-4.39)
October 1972 Hours of Work and:				
Academic curriculum	.23 (8.88)	NS	NS	NS
Mathematics	NS	NS	.04 (53.39)	NS
Family income	.04 (26.16)	.07 (20.18)	37.21 (130.69)	.03 (3.85)
Parent education level	NS	NS	NS	.12 (6.42)
R^2	.40	.39	.45	.40
F	785.20	208.79	1,806.51	128.51

Student's t-values in parentheses. Insignificant regressors not shown.

The empirical results for hours of work supplied in October 1973 are summarized in Table 3.28. The top portion of the table shows the effects of Class members with no previous work experience (i.e., not employed in October 1972). It can be observed that all effects are negative. For these late entrants to the labor market, it appears that family income rather than curriculum or parental educational level, is the strongest determinant of hours of work, with the possible exception of white females. However, high school curriculum is still an important factor for white males, and parent educational level for black females. For white females, mathematics test scores appear to be the most significant factor.

The intertemporal effects of hours of work supplied in October 1972 upon that supplied in October 1973, shown at the bottom of Table 3.28 are all positive, offsetting the corresponding negative effects already discussed. The effects of family income for those with no previous work experience are negative or zero for all subgroups. These negative effects are reduced somewhat for those who worked in 1972. Thus, the net negative effects of family income on 1973 work hours are expected to be smaller for those with work experience, and may even be positive in some cases. The estimated effect of family income for white females is strongly positive, for those employed at both points in time, suggesting greater involvement in work for continuously employed respondents from higher income families.

3.8 Determinants of Wage Rates

The prediction of wage rates was approached both by the reduced econometric model and by path analysis. Empirical results for the determinants of wage rates, using the reduced econometric model for October 1972 data, failed to fit three of the four race x sex subgroups. For black females a very weak fit was obtained ($R^2 = .01$). Only the family income variable was significant ($t = 2.65$), yielding a simple regression:

Wage Rate (1972) = 2.16 + .05 (Family income).

This result suggests, for black females, that initial post-high school wage rates tend to be higher for those from higher income families. The failure of the other three models to fit the data may be a reflection of high uniformity in the initial wage rates received by recent high school graduates.

The reduced econometric model for 1973 wage rates, as before, also incorporated a lagged regressor. Results given in Table 3.29 indicate that the degree of fit was quite reasonable for blacks, but that for white males was weak and that for white females the model failed to fit. The results suggest, however, that black female graduates from the academic program earned higher wage rates than those from other curricula when they were employed in 1973 but not in 1972. The wage rate advantage declined for those employed at both points in time and may have disappeared for some whose earlier wage rates were relatively high.

Table 3.29

Determinants of October 1973 Wage Rates (Reduced Model)

Variable	Male		Female	
	White	Black	White	Black
Constant	3.63 (30.94)	3.29 (30.88)	NS	1.04 (6.44)
Academic curriculum	NS	NS	NS	7.21 (25.66)
Family income	NS	-1.28 (-52.43)	NS	NS
Parent education	NS	1.95 (41.42)	NS	NS
Parent occupation level	-.03 (-9.98)	NS	NS	.14 (-24.43)
October 1972 Wage Rate and:				
Academic curriculum	NS	.81 (48.49)	NS	-3.77 (-30.74)
Mathematics	NS	.05 (36.63)	NS	.05 (19.18)
Family income	-.02 (-11.91)	.33 (59.24)	NS	NS
Parent education level	NS	-.60 (-55.98)	NS	.43 (8.00)
Parent occupation level	.01 (16.18)	NS	NS	.06 (31.45)
R^2	.06	.85	--	.59
F	90.38	595.39	--	170.14

Student's t-values in parentheses. Insignificant regressors not shown.

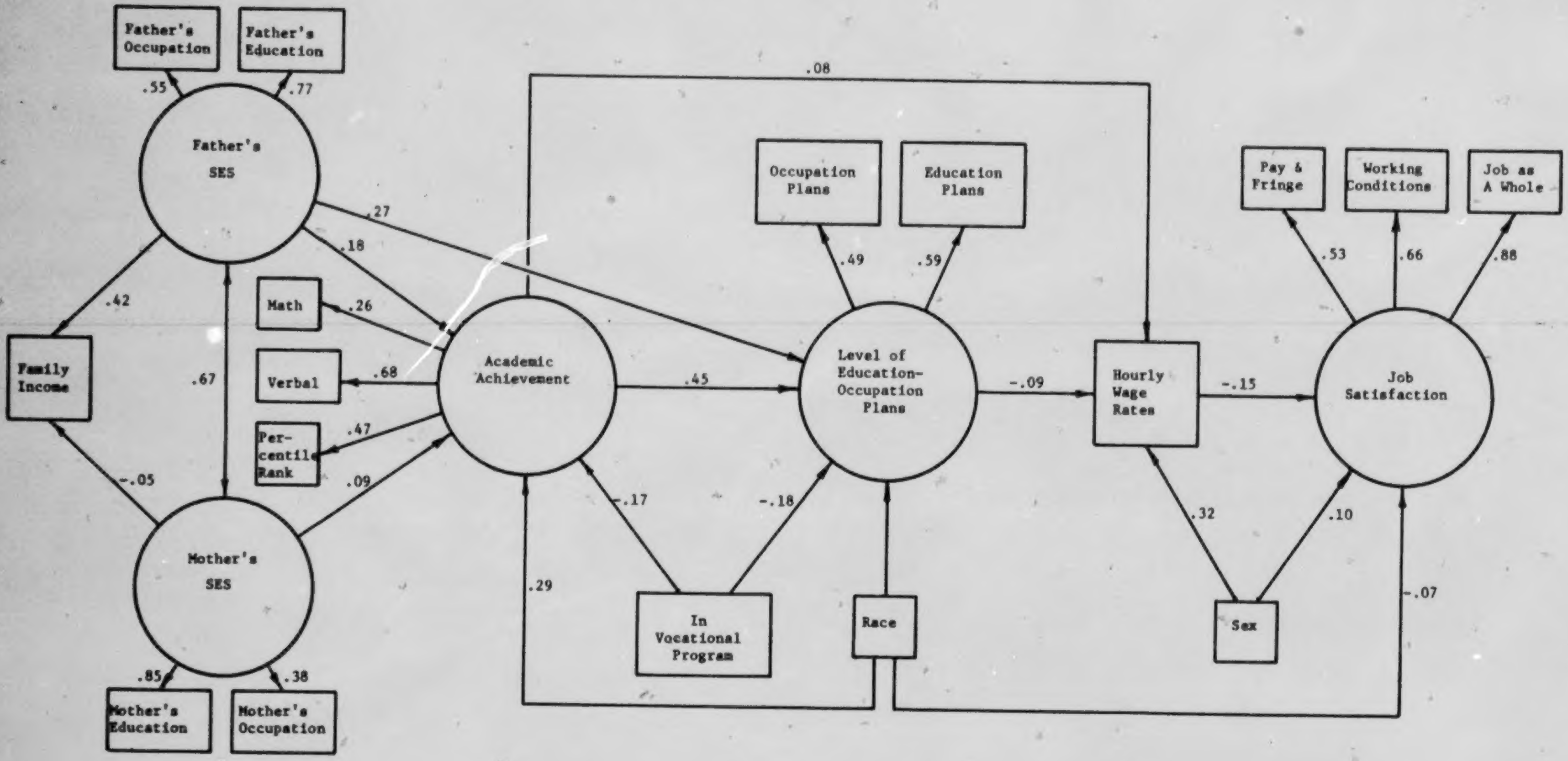
The effects of parent occupational status are mildly significant for white males and black females. For these two subgroups, those from higher occupational status parents tended to earn lower wage rates when employed for the first time in October 1973, but tended to earn higher wage rates when they had been employed at both points in time. Mathematical ability seemed to affect wage rates for blacks who were employed at both points in time; the relationship was positive, implying higher wage rates are associated with higher mathematical ability. Family income and parent educational level showed some relationship to wage rates for black males; however, there is some possibility that the result arises form a strong collinearity between 1972 and 1973 data (the correlation between family income and family income with lagged wage rates was .86, and that between parent education and parent education with lagged wage rate was .75).

The structural (path) analysis of the determinants of wage rates is schematized in Figure 3.11. This analysis includes only individuals who were working full time (N = 8,500). Other endogenous (dependent) variables included in the model are academic achievement, educational-occupational plans, hourly wage rates and job satisfaction. For simplicity of interpretation, one-way arrows have been dropped from the picture if their associated path coefficients were not equal to or greater than an absolute value of .07.

It is interesting to note that family income has a considerably smaller factor loading on mother's SES than father's SES. Since this particular analysis includes only those individuals who were working full time, and thus are more likely to come from lower SES families, it is not very surprising that family income is almost entirely a function of father's SES. Lower SES women evidently are less likely to be working, or even when they are working, their salaries are likely to be proportionately lower.

Figure 3.11

Structural Model of Post-High School Wage Rates



Father's Occupation
Father's Education
.55
.77
Father's SES
.27
.18
.42
Family Income
.67
Math
.26
Verbal
.68
Per-centile Rank
.47
-.05
.09
Mother's SES
.85
.38
Mother's Education
Mother's Occupation
Academic Achievement
.08
.45
-.17
.29
In Vocational Program
Occupation Plans
Education Plans
.49
.59
Level of Education-Occupation Plans
-.18
Race
-.09
Hourly Wage Rates
.32
-.15
Sex
.10
Job Satisfaction
-.07
Pay & Fringe
Working Conditions
Job as A Whole
.53
.66
.88

The proportionately smaller influence ascribed to mother's SES on other endogenous variables for lower SES families appears again where level of educational-occupational plans is concerned. Inspection of the total effect of mother's SES on level of educational-occupational plans of the child is .06, while that for the father is .35 (Table 3.32). This is almost the same level of relationship as was found for the black sample (Tables 3.30 and 3.31). This comparison suggests that the lack of influence of the mother's SES construct on educational-occupational plans of the child is more likely tied to family SES level than to race.

Holding constant father's and mother's SES, and academic achievement, individuals who were in the vocational program tend to have lower educational-occupational plans as indicated by their respective path coefficient ($b^* = -.18$). That is, vocational students (who are working full time) relative to academic and general students, tend to aspire to lower educational-occupational levels than one would expect from their past academic achievement and SES. It would seem that some of the students in the vocational program (in particular those working full time) may be overly modest with respect to their educational-occupational plans. The negative path coefficient from race to educational-occupational plans ($b^* = -.20$) indicates just the opposite. That is, blacks tend to have somewhat exaggerated educational-occupational plans compared to whites. This finding is consistent with the Coleman study of educational opportunity.[27] The negative path coefficient may not reflect unrealism in aspirations of blacks because it compares black aspirations to white. Since many blacks will be attending less selective colleges and professional institutions, their aspirations are not especially unrealistic; however, they would become unrealistic if

Table 3.30

Direct and Indirect Effects of White Occupational-Educational Aspirations

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Ability Achievement (R = .38)			
Father's SES	.27		.27
Mother's SES	.14		.14
Occupational-Educational Aspirations (R = .71)			
Father's SES	.18	.15	.33
Mother's SES	.09	.08	.17
Ability Achievement	.58		.58

Table 3.31

Direct and Indirect Effects of Black Occupational-Educational Aspirations

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Ability Achievement (R = .27)			
Father's SES	.21		.21
Mother's SES	.08		.08
Occupational-Educational Aspirations (R = .91)			
Father's SES	.15	.18	.33
Mother's SES	.00	.07	.07
Ability Achievement	.86		.86

Table 3.32

Direct and Indirect Effects of Post-High School Wage Rates

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Academic Achievement (R = .46)			
Father's SES	.18		.18
Mother's SES	.09		.09
In Vocational Program	-.17		-.17
Sex	-.06		-.06
Race	.29		.29
Level of Occupational Plans (R = .63)			
Father's SES	.27	.08	.35
Mother's SES	.01	.05	.06
In Vocational Program	-.18	-.07	-.25
Sex	-.03	-.02	-.05
Race	-.20	.13	-.07
Academic Achievement	.45		.45
Hourly Wage Rates (R = .33)			
Father's SES	.06	-.02	.04
Mother's SES	-.05	.01	-.04
In Vocational Program	.04	.01	.05
Sex	.32		.32
Race	-.01	.03	.02
Academic Achievement	.08	-.04	.04
Level of Occupational Plans	-.09		-.09
Job Satisfaction (R = .18)			
Father's SES	.00	.01	.01
Mother's SES	.00	.01	.01
In Vocational Program	-.02	-.02	-.04
Sex	.10	-.04	.06
Race	-.07	-.01	-.08
Academic Achievement	.00	.02	.02
Level of Occupational Plans	.05	.01	.06
Hourly Wage Rates	-.15		-.15

large proportions of blacks were to pursue their preoccupational and/or professional training at highly selective institutions.

Considerable variance in the hourly wage rates was left unexplained by the hypothesized model. It would seem that characteristics of the individual as well as his or her environmental background have little to do with wages earned in the first year out of high school. The only variable possessing a large path coefficient is sex of the individual, with males much more likely to command higher wages than females. Obviously, higher paying jobs which do not require special training (i.e., the kind of jobs available for individuals just out of high school) include construction and other laboring jobs not ordinarily open to females. The fact that race has little or no effect (.02 in Table 3.32) is gratifying, and indicates that employed blacks do have reasonable access to relatively higher paying jobs.

The construct of job satisfaction is rather interesting from the viewpoint of the relative importance of the indicators. "Job as a whole" is by far the most valid indicator of job satisfaction, while "working conditions" is next and "pay and fringe benefits" is considerably less important. Hourly wage rates have a negative path coefficient on job satisfaction indicating that often when the wages are high the working conditions and the job as a whole may not be satisfactory. This seems reasonable since many high paying entry level jobs which require little or no training involve high risk or low comfort conditions. There is a slight tendency for men to be more satisfied with their entry level jobs than are women, and, to a somewhat lesser extent, for blacks to be more satisfied with their post-high school jobs than whites.[28]

In summary then, salaries earned in entry level jobs appear to be relatively independent of the characteristics of the individual with the exception of sex of the worker. Type of job obviously is the primary determinant of wage rates and since these are entry level occupations requiring little training or experience, characteristics of individuals (other than sex) seem to have little to do with the type of job selected. Job satisfaction in entry level jobs seems to be primarily a function of intrinsic characteristics of the job rather than wages. It is gratifying to note that racial discrimination with respect to wage rates is nonexistent at these entry level occupations. This conclusion, however, only applies to job holders and may well not apply to securing entry level positions. In fact the employment status model discussed earlier produced evidence for racial discrimination in acquiring entry level jobs.

Chapter 3: Notes

1. Item 31 of the Base Year Student Questionnaire did contain such an item, but the First Follow-Up Questionnaire did not. Lack of such an item complicates the current analysis since the designation of a principal activity incorporates something of the importance of the activity to the individual; thus, an individual enrolled full time in college may also be working part time and, moreover, the number of hours spent on the job may exceed the hours spent in the classroom. Nonetheless, such a person would likely describe his primary activity as going to school. It was with such considerations in mind that we devised the rather arbitrary set of sequential classification rules used in the analysis.

2. The results of this section differ from those of Chapter 2 because of the sequential, forced-choice nature of the "primary activity" classification scheme. In contrast to this method, Chapter 2 classified individuals into each activity-state in which they participated, generally without regard to the degree of involvement with one activity-state compared to another. Thus, Chapter 2 discussions of workers involved all respondents who indicated working status, many of whom were attending schools.

3. Creech, F. Reid, A Vocational Re-evaluation of the Base Year Survey of the High School Class of 1972. Part I: Selected Characteristics of the Class of 1972, PR-74-23, Educational Testing Service, Princeton, N.J. 08540, pp. 37-71

4. In a slightly different form, this phenomenon reappeared in data collected during the First Follow-Up. Respondents were asked whether their parents had (a) encouraged, (b) discouraged, (c) both, (d) neither--their participation in postsecondary education. Compared to the academic graduates, surprising numbers of vocational and general graduates reported both and neither. In the absence of evidence to the contrary, this has been interpreted as a perception of parental indifference to the furtherance of the respondent's education.

5. The methodology underlying the discriminant analyses is briefly discussed in Chapter 6.

6. Complete data cases represent respondents for which all relevant variables were present in the data file. Since usual procedures for avoiding missing data problems, such as inserting the sample arithmetic mean in the place of missing values, can attenuate correlations it was not considered advisable to use missing data correlation procedures in these analyses.

7. It may also be noticed in Table 3.4 that the percentage distributions across groups for the 5,891 individuals with complete data on 18 variables differs substantially from that for individuals

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who failed to provide useful answers to one or more base-year items. For example, individuals who completed the base-year Student Questionnaire fully and carefully were much more likely to be four-year college students than their classmates with incomplete responses--among 5,891 individuals with complete scores on 18 variables, 40.8 percent were in four-year colleges as compared to 28.9 percent of 13,533 with complete data on the five cognitive variables. Similar patterns obtained for each of the ethnic categories examined. This is consistent with the fact that individuals who completed all the Student Questionnaire items involved, as compared to their classmates who did not, had higher scores on ability measures, higher grades, and higher scores on variables reflecting level of occupational aspiration, family aspiration for student's education, and other variables associated with college attendance. Individuals whose responses to the Student Questionnaire were essentially complete clearly comprise a sample biased in the direction of higher scores on variables associated with higher levels of educational and occupational attainment.

8. The attempt was made to provide more refined discriminant analyses of, for example, sex x curriculum x primary activity; however, small subgroup sizes and missing data made such analyses impossible.

9. Respondents for analysis MDA-4 consist only of blacks and whites; other ethnic categories were inadvertently omitted.

10. It seemed unnecessary to perform separate analyses by race, sex, and curriculum since, in Section 3.2, a strong suggestion was developed that the mechanism of school attendance or non-attendance works similarly for the various subgroups, although they might differ by level. To compensate variation in level the variables of race, sex, and curriculum were used as regressors in the analyses.

11. Financial need is derived from FFQ29. Those considered to have financial need are those endorsing subitems A, B, C, or Q. More specifically, "financial need" is not provided in the FFQ; rather, the indication is provided that financial concerns are a reason for not attending college.

12. Desire for college education is a derived variable taken from FFQ54. Respondents endorsing subitems B or D of this item are those considered to have a desire for a college education. Specifically, the FFQ does not provide a direct measure of desire for college education; the variable actually used is a reflection of the respondent's educational pursuits being a reason for not working.

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13. The development of the model is presented in Chapter 6.

14. The two "other" variables can be represented structurally as

$$[(x_2-x_1)(1-y_2)x_2] \text{ and } [(x_2-x_1)\ (1-y_2)x_2]y_{1(t-1)},$$

where the first represents a "current" (October 1973) composite of educational desire and net income for nonworkers, and where the second represents the same construct lagged by the presence of enrollment status during October 1972. The notation of this Note conforms to the model description provided in Chapter 6.

15. This may be a reflection of the short term, vocational involvement of black females in postsecondary education discussed in Chapter 2.

16. The model is described in detail in the methodology chapter.

17. Employment status, considered in the second and third analysis sets, is discussed later in this chapter.

18. It can be noted also that the relationship between family income and hours of study for black males is positive, while that of parent occupational status of black females is negative. The counterbalancing of exogenous variables provided by lagging hours of study was somewhat unexpected and reflects not only an inadequacy of the model, but of psychological theory as well, since ready explanations seem available for all possible outcomes, with no convenient rationale for selecting certain explanations and deleting others. Thus, a positive relationship between hours of study and parent education level could be interpreted as reflecting the family's educational orientation; conversely, a negative relationship could be interpreted as reflecting the greater academic ability of respondents (who therefore need to study less) from homes of highly education parents.

19. The stepdown process used for these computations discards collinear variables whose effects are more strongly represented by other variables. Even though parental education level is present in the regression, it is possible that vocabulary and mathematical test scores have suppressed the positive components of the relationship, leaving a negatively related partial variable.

20. Additional information regarding the methodology used and the conventions used in the path diagram is presented in Chapter 6.

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21. The same effect can be observed in the path analysis relating wage rates to background variables which is presented later in this chapter.

22. The size of this effect is somewhat less in the current model than in the wage rate model discussed later (b* = .14 vs. .20).

23. Development of the model is discussed in Chapter 6.

24. This finding reinforces the descriptive result presented in Chapter 2 under the heading, "Educational Activities."

25. This finding reinforces the descriptive result of Chapter 2 under the heading, "Job-Seeking Methods."

26. This finding reinforces the descriptive result of Chapter 2 presented in Table 2.9.

27. Coleman, J.S., Campbell, E.Q., Hobson, C.J., McPartland, J., Mood, A.M., Weinfeld, F.D. and York, R. Equality of educational opportunity. National Center for Educational Statistics, 1966.

28. This result is in contradiction to the descriptive finding of Chapter 2 (under "Job Satisfaction") which indicated blacks were less satisfied than whites on each of a variety of measures.

CHAPTER 4

THE REALIZATION OF PLANS AND ASPIRATIONS

4.1 Introduction

In Chapter 3 a number of analyses were presented in which relationships were developed between current status and activities of members of the Class of 1972 and selected background characteristics. In the current chapter these relational analyses are extended to include the important domains of plans and aspirations. More particularly, this chapter is oriented toward the determination of those factors which seem to be associated with the attainment or nonattainment of plans and aspirations which were manifest during the final secondary year of school.

These analyses are followed by the development of two sets of postsecondary outcome dimensions, educational and vocational, which parsimoniously describe the educational and vocational activities of the Class, and with an attempt to predict the derived dimensions using base year data. Analysis is concluded with a consideration of short term (1972) outcomes as predictors of later (1973) outcomes.

4.2 Comparison of Plans with Subsequent Activities

Students' Postsecondary Plans

For members of the Class of 1972, the range of activity options for the year after high school was summarized in a question from the Student Questionnaire (SQ 31), administered late in the senior year, as follows:

> What is the one thing that most likely will take the largest share of your time in the year after you leave high school?

01 Working full time
02 Entering an apprenticeship or on-the-job training program
03 Going into regular military service or service academy
04 Being a full-time homemaker
05 Taking vocational or technical courses in a trade or vocational school, full time or part time
06 Taking academic courses at a junior or community college, full time or part time
07 Taking technical or vocational subjects at a junior or community college, full time or part time
08 Attending a four-year college or university, full time or part time
09 Working part time, but not attending school or college
10 Other (travel, take a break, no plans).

Several of these options reflect a primary commitment to further formal schooling in a four-year or two-year college or in a trade, vocational or other school, while others implicitly or explicitly assign less than a primary role to continuation of formal schooling--e.g., working full time, being a full-time homemaker, entering military service. Generally speaking, some 62% of the respondents[1] had planned to enroll in a school or college; about 29% had planned civilian work or on-the-job/apprenticeship training, while the remaining 9% had projected military service (3.1%), full-time homemaking (2.6%), or some other plan (3.6%).

Judging from response to SQ 31, summarized in Table 4.1, senior-level plans for the year after high school varied much more markedly according to the school curriculum in which an individual had enrolled two or three years earlier than according to sex or ethnic-group membership. That there is little difference between racial groups is consistent with Parnes' findings.[2] For example: Some 33% of blacks, 37% of whites, 34% of females, and 37% of males projected attendance at a four-year college. Thus, only comparatively modest differences in these

Table 4.1

Seniors' Projected Major Activity for Year After Leaving High School: By Curriculum, Sex, and Race
(In percent, weighted data)

		Curriculum			Sex		Race	
Major Activity Planned	Total	General	Academic	Vocational	Male	Female	Black	White
Plan calling for enrollment in school or college	(61.9)	(45.8)	(84.6)	(33.4)	(61.5)	(62.1)	(55.3)	(62.5)
Attend four-year college	35.8	17.5	60.2	6.8	37.1	34.5	32.9	36.1
Attend academic two-year	11.6	12.1	14.2	5.4	11.6	11.6	5.5	12.2
Attend vocational two-year	5.4	15.4	5.1	5.9	5.2	5.5	5.2	5.4
Attend trade or voc school	9.1	10.8	5.1	15.3	7.6	10.5	11.7	8.8
Plan calling for civilian work or on-job training	(28.8)	(40.9)	(10.5)	(52.9)	(28.8)	(29.0)	(35.9)	(28.2)
Work full time	24.3	33.5	8.4	46.6	23.1	25.5	30.2	23.7
Work part time	1.9	2.8	0.9	2.9	1.8	2.1	2.5	1.9
Apprenticeship or on-the-job training	2.6	4.6	1.2	3.4	3.9	1.4	3.2	2.6
Other plan	(9.3)	(13.3)	(4.9)	(13.6)	(9.8)	(8.9)	(8.8)	(9.4)
Military service	3.1	4.0	2.1	4.1	5.5	0.8	3.5	3.1
Homemaker	2.6	4.1	0.9	4.6	0.0	5.2	2.0	2.7
Other (no plans, travel, etc.)	3.6	5.2	1.9	4.9	4.3	2.9	3.3	3.6
Total	100.0	100.0	100.0	99.9	100.1	100.0	100.0	100.1

plans by sex and race are evident. However, only 7% of graduates of vocational curricula and 18% of general curriculum graduates, but 60% of academic curriculum graduates planned four-year college attendance--a marked difference in plans by curriculum.

Plans calling for the continuation of formal schooling in a four- or two-year college or vocational/trade school were reported by some 85% of the academic, 46% of the general, and 33% of the vocational respondents.

About half the vocational students had planned civilian work either full time (46.6%) or part time (2.9%), as compared to more than a third of the general students (33.5% planned full-time and 2.8% part-time work), but less than 10% of the academic curriculum graduates.

Realization of Plans

In responding to the question on postsecondary plans (SQ 31), seniors indicated what they thought would be their principal activity in the year after school. The classification provides a useful basis for comparison with postsecondary outcomes. Individuals were classified according to planned activity (i.e., responses to SQ 31) and for each plans category the distribution of individuals according to postsecondary activity-state was determined. Table 4.2 shows what individuals with various plans as high school seniors in Spring 1972 were doing in October 1972.

It is evident that outcomes and plans are related. This finding is consistent with a number of other studies.[3] However, that relationship is far from perfect, and the degree of agreement between plans and outcomes varied considerably across plans categories. Individuals who projected school or college attendance as their major first-year post

Table 4.2

Postsecondary Activity Status in Relation to Major Projected Activity for Year After High School

		Enrolled in School or College[a] October 1972				Not Enrolled, October 1972					
										Not Working at Job	
Planned Activity	% with Plan	Four-Year	Two-Year	Other	(Total Enrolled)	Military[b]	Apprentice[b]	Full-time Job[c]	Part-time Job	Homemaker[d]	Other
Four-year college	(35.8)	75.5	6.5	9.0	(91.0)	0.6	1.9	3.3	1.1	0.3	1.8
Academic two-year	(11.6)	7.7	61.2	8.6	(77.5)	1.5	4.6	8.8	2.7	0.5	4.4
Vocational two-year	(5.4)	10.8	45.5	17.6	(73.9)	1.7	7.3	9.8	2.4	1.3	3.7
Vocational school	(9.1)	1.9	7.6	47.8	(57.3)	1.8	10.2	17.8	3.3	1.8	7.8
Work full time	(24.3)	2.3	5.5	8.1	(15.9)	4.0	20.0	40.6	7.9	3.2	8.3
Work part time	(1.9)	4.9	7.9	8.8	(21.6)	0.5	15.0	31.7	13.1	2.8	15.0
Apprenticeship	(2.6)	3.4	3.8	15.3	(22.5)	4.5	28.7	31.4	5.2	0.9	6.8
Military service	(3.1)	7.7	1.9	13.2	(22.8)	40.8	8.6	15.9	3.8	0.6	7.5
Homemaker	(2.6)	1.8	2.0	4.6	(8.4)	0.0	12.4	20.4	7.8	40.1	10.8
Other	(3.6)	4.9	8.0	7.5	(20.4)	3.9	15.3	32.5	10.1	2.7	15.1
Total in status	(100.0)	29.9	14.6	12.8	(57.3)	3.1	9.6	17.9	4.1	2.4	5.6

[a] May also have been working at a job.

[b] Classified if status applicable in October 1972 or later in period; may also have been working at a job in October 1972.

[c] Full-time work defined as 35 hours or more per week; part-time as less than 35 hours per week.

[d] Classified if "being a homemaker," pregnancy, family responsibilities given as reason for not working at a job.

high school activity were much more likely to have been enrolled in October 1972 than their classmates whose principal projected activity did not call for continuation of formal education, but there was some incidence of enrollment in every plans category. Some 91% of those planning four-year college attendance enrolled in some form of postsecondary institution--75.5% in a four-year college, 6.5% in a two-year college, and 9.0% in a trade, vocational, or other type of school.

About three-fourths of those planning either vocational or academic courses in a two-year college enrolled in some form of school or college. However, whereas 61% of those planning to take academic two-year college courses wound up in a two-year college, only 45.5% of those planning vocational courses did so--almost 18% of the latter enrolled in a vocational or trade school instead of a two-year college.

A majority (57.3%) of respondents who had planned to attend a vocational or trade school were students in October 1972, 47.8% of them in a trade or vocational school, and the remainder in either a two-year college (7.6%) or a four-year college (1.9%).

Those who had planned to be homemakers were least likely to be enrolled in any form of educational program in October 1972--only 8.4%, mainly in vocational, trade or other school (4.6%). Some 15.9% of those who thought that working full time would be their principal activity actually became students, mainly in vocational or trade schools (8.1%). Between 20.4% and 22.8% of individuals in the other plans categories (military, apprentice, part-time work, miscellaneous) reportedly were continuing their formal education in October 1972.

Among individuals who thought they would be working full time or part time, or who thought that job-related training would be their major activity (i.e., apprenticeship or on-the-job training) in the year after high school, a majority (more than six in 10 in each plans group) were in one of these work-related outcomes categories in October 1972.

Of those who had planned full-time work, 40.6% reported that they were working at a job 35 or more hours per week and 7.9% less than 35 hours per week in October 1972, and 20.0% were apprentices during the follow-up period; thus, 68.5% of this plans category were engaged in activities generally consistent with plans. About one in 12 (8.5%) was without a job and was neither a student nor a homemaker.

The pattern was similar for those who planned part-time work or apprenticeship training or who had nonspecific plans--a majority (between 58% and 66%) were either working full time or part time or engaged in on-the-job or apprentice training. However, some 15% of those whose plans were relatively unstructured (i.e., part-time work and "Other") were without work (and were neither students nor homemakers), substantially above the overall incidence of 5.6% in this category.

Some 40% of those who had anticipated being full-time homemakers were so classified in October 1972 (i.e., were not students, not working at a job, and cited being full-time homemaker or family-related reasons for not working). However, 83% of those planning full-time homemaking were at least "part-time" homemakers in the Fall of 1973. A comparable percentage of those who expected to enter military service did so (40.8% by October 1972 and 57% by the Fall of 1973).

Realization of Plans by Subgroups

Table 4.3 shows the distribution of postsecondary outcomes for each projected-activity category for each of the three high school curriculum groups.

Table 4.3

Postsecondary Activity Status in Relation to Major Projected Activity for the Year After Leaving High School, by Curriculum: Class of 1972 (weighted data, in percent)

Projected Major Post High School Activity	Percent Planning Activity	Status in October 1972 (in percent)									
		Enrolled in a School or College[a]				Not Enrolled in a School or College					
								Job Holder[c]			
		Four-Year	Two-Year	Trade/Vocational	Total Enrolled	Military[b]	Apprentice[b]	Full Time	Part Time	Not Working	Homemaker[d]
Vocational school	(9.1)	1.9	7.6	47.8	(57.3)	1.8	10.2	17.8	3.3	(7.8)	(1.8)
General	(10.8)	1.1	7.1	44.2	52.4	2.5	11.8	19.8	2.3	8.8	2.2
Academic	(5.1)	4.5	10.7	58.6	73.8	1.2	7.1	8.7	3.0	4.3	1.9
Vocational	(15.3)	0.7	5.8	43.6	50.1	1.6	11.0	22.4	4.5	9.2	1.3
Two-year academic	(11.6)	(7.7)	(61.2)	(8.6)	(77.5)	(1.5)	(4.6)	(8.8)	(2.7)	(4.4)	(0.5)
General	(12.1)	4.5	59.8	6.8	70.1	2.9	5.8	11.4	2.8	5.7	0.2
Academic	(14.2)	9.4	64.5	9.4	83.3	1.0	3.4	5.7	2.4	3.7	0.5
Vocational	(5.4)	7.9	46.5	8.6	62.0	0.3	8.0	18.4	3.7	5.1	1.5
Two-year technical	(5.4)	(10.8)	(45.5)	(17.6)	(73.9)	(1.7)	(7.3)	(9.8)	(2.4)	(3.7)	(1.3)
General	(5.4)	5.2	42.1	14.2	61.5	2.1	11.9	13.5	2.5	6.4	2.1
Academic	(5.1)	16.2	48.7	19.7	84.6	0.6	3.6	6.2	2.1	2.2	0.7
Vocational	(5.9)	7.8	43.6	17.5	68.9	3.1	8.7	11.9	3.1	3.0	1.4
Four-year college	(35.8)	(75.5)	(6.5)	(9.0)	91.0	(0.6)	(1.9)	(3.3)	(1.1)	(1.8)	(0.3)
General	(17.5)	57.2	10.0	12.7	79.9	1.9	3.7	6.9	2.1	4.8	0.6
Academic	(60.2)	79.9	5.8	8.2	93.9	0.3	1.4	2.2	0.9	1.1	0.2
Vocational	(6.8)	53.1	9.5	10.9	73.5	1.0	4.5	12.6	2.7	4.9	0.9
Work full time	(24.3)	(2.3)	(5.5)	(8.1)	15.9	(4.0)	(20.0)	(40.6)	(7.9)	(8.3)	(3.2)
General	(33.5)	1.3	5.8	8.5	15.6	5.8	18.4	38.1	8.3	9.5	4.4
Academic	(8.4)	7.9	9.1	9.8	26.8	3.3	20.7	35.8	5.6	5.8	1.9
Vocational	(46.6)	1.1	3.8	7.2	12.1	2.7	21.2	44.9	8.4	8.2	2.5
Work part time	(1.9)	(5.2)	(7.9)	(8.8)	21.9	(0.5)	(15.0)	(31.7)	(13.1)	(15.0)	(2.8)
General	(2.8)	4.8	12.4	6.8	24.0	0.0	15.3	34.9	10.1	12.5	3.2
Academic	(0.9)	11.4	6.4	7.8	25.8	0.0	9.0	30.7	11.7	19.7	3.3
Vocational	(2.9)	1.4	3.4	11.9	16.3	1.4	18.9	28.4	17.9	14.9	1.9

		Status in October 1972 (in percent)									
		Enrolled in a School or College[a]				Not Enrolled in a School or College					
								Job Holder[c]			
Projected Major Post High School Activity	Percent Planning Activity	Four-Year	Two-Year	Trade/ Vocational	Total Enrolled	Military[b]	Apprentice[b]	Full Time	Part Time	Not Working	Homemaker[d]
Apprenticeship	(2.6)	(3.4)	3.8	15.3	22.5	4.5	28.7	31.4	5.2	6.8	0.9
General	(4.6)	1.4	2.3	14.7	18.4	3.8	33.7	31.4	5.9	6.7	0.0
Academic	(1.2)	13.1	6.0	21.7	40.8	3.1	29.9	19.1	2.5	4.1	0.6
Vocational	(3.4)	0.0	4.8	11.8	16.6	6.6	19.3	40.2	5.7	9.1	2.5
Military service	(3.1)	7.7	1.9	13.2	22.8	40.8	8.6	15.9	3.8	7.5	0.6
General	(4.0)	2.9	1.4	7.5	12.8	46.2	13.1	16.3	2.4	9.8	0.5
Academic	(2.1)	15.8	1.9	20.4	37.3	43.3	4.8	7.9	4.0	1.7	0.3
Vocational	(4.1)	4.7	2.6	12.3	19.6	31.2	7.2	24.4	5.9	11.0	1.1
Homemaker	(2.6)	(1.8)	(2.0)	(4.6)	8.4	(0.0)	(12.4)	(20.4)	(7.8)	(10.8)	(40.1)
General	(4.1)	2.4	1.7	3.9	8.0	0.0	14.0	24.0	4.0	10.7	39.3
Academic	(0.9)	4.4	5.2	4.3	14.9	0.0	3.2	8.6	2.8	19.5	50.9
Vocational	(4.6)	0.0	0.6	5.5	6.1	0.0	14.4	21.2	14.4	7.2	36.5
Other	(3.6)	(4.9)	(8.0)	(7.5)	20.4	(3.9)	(15.3)	(32.5)	(10.1)	(15.1)	(2.7)
General	(5.2)	2.1	10.5	6.6	19.2	3.3	11.0	34.8	10.3	18.0	3.4
Academic	(1.9)	13.9	7.3	9.1	30.3	3.2	14.5	29.1	13.2	8.5	1.1
Vocational	(4.9)	1.2	5.3	7.4	13.9	5.1	22.1	32.1	7.1	16.7	3.1
Total	(100.0)	29.9	14.6	12.8	57.3	3.1	9.6	17.9	4.1	5.6	2.4
General	(100.0)	11.9	15.1	13.1	40.1	5.2	13.1	24.1	5.2	8.4	3.9
Academic	(100.0)	52.1	16.3	12.0	80.9	1.7	4.4	7.2	2.1	2.6	1.0
Vocational	(100.0)	5.4	9.1	14.1	28.6	3.6	16.1	32.6	7.1	8.4	3.6

4.9

[a] May also have held a job in October 1972, or have entered an apprenticeship training program or military service at any time during follow-up period.

[b] May also have held a job in October 1972—entered service or had apprenticeship/on-the-job training during follow-up period.

[c] "Full time" defined as 35+ hours per week; part time as less than 35 hours per week.

[d] Gave "homemaker," pregnancy, and/or family care responsibilities as reasons for not working at a job in October 1972.

It is evident from the table that the high school vocational or general curriculum graduate who had expected to attend a traditional four-year college or to take academic courses in a two-year college was much less likely than the academic curriculum graduate to be either enrolled in a four-year or two-year college or to be attending any type of school or college in October 1972. Only 53% of vocational and 57% of general curriculum graduates, as compared to 80% of academic graduates, who had expected to attend a four-year college were doing so in October 1972.

Among individuals who had expected to take academic courses in a two-year college, less than half (46%) of the vocational graduates, approximately 60% of the general graduates, and some 64% of academic graduates were in a two-year college.

For those who had projected taking technical courses in a two-year college, trends were similar--almost two-thirds of academic graduates with such projected plans as seniors enrolled in either a two-year or four-year college, whereas only about 51% of vocational and 47% of general graduates did so.

Even among those who had planned to attend a trade or vocational school, academic curriculum graduates were more likely than either general or vocational graduates to have realized those plans by October 1972--59% of academics who had such plans as seniors as opposed to about 44% of general and vocational graduates with such plans reported enrollment in a trade, vocational, or other noncollegiate type of school in October 1972.

Generally speaking, insofar as continuation of formal education is concerned, for high school seniors in an academic curriculum who approached graduation with an outlook that included further formal education or training, outcomes for the follow-up year were much more consistent with plans than was the case for seniors in either the vocational or general curriculum. Moreover, the findings suggest that the greater the degree of commitment to "academic education" reflected in the projected activity, the greater the likelihood of being enrolled in a school or college. For example, among academics, 94% of those who had planned to attend a four-year college were enrolled either in a four-year college or some other school or college. However, only 84% of those who had planned to attend a two-year college, and about 74% of those who had planned to attend a trade or vocational school were actually continuing their education in some form of school or college in October 1972; for vocational graduates who projected attendance in a school or college, enrollment percentages in any form of school or college were roughly 74%, 64%, and 50%, respectively, for four-year, two-year, and trade-school-plans categories.

Even for those who planned to work full time or who had other projected post high school activities not calling for continuation of formal education, a consistently higher percentage of academics than of other curriculum graduates were students in October 1972. Thus, for the academic graduate, continuation of formal education appears to be a more "natural" alternative to planned participation in the labor market or other type of plan, than for either the general or the vocational curriculum graduate. Among those who had planned full-time work as their major activity in the year after high school, the vocational curriculum graduate was most likely to be a nonstudent, full-time employed jobholder in October 1973.

Among vocational graduates who had planned full-time work, 45% were working full time (35+ hours per week) and about two-thirds (66%) were either working full time or in an apprenticeship or on-the-job training program; about 38% of general and 36% of academics who had planned full-time work were working full time. Enrollment in a school or college was reported by only 12% of vocational graduates who had planned full-time work.

About 8% of vocational graduates who had planned full-time work were without a job (and not classifiable as students, in-service trainees, or homemakers), a figure equal to that for all vocational and general graduates without regard to plans; 9.5% of general graduates who had planned to work full time were without work while only 5.8% of some 8% of academics who had planned full-time work were not gainfully employed.

All of the other plans categories combined contained fewer than 14% of the Class of 1972, and none involved as much as 4% of the Class. General curriculum graduates who had expected to become apprentices or on-the-job trainees, as well as academic graduates with such plans, relatively more frequently reported such an outcome than did vocational graduates; 34% of general, 30% of academic, but only 19% of vocational graduates who had planned apprenticeships were classifiable as apprentices. Vocationals with an apprenticeship orientation tended to become full-time jobholders instead (40% did so), whereas academics with a similar orientation tended to enroll in a school or college (41% did so).

The same trends obtained by curriculum for students who had planned military service--vocationals with such plans were least likely and generals most likely to realize them.

As earlier noted in Table 2.4, about 65% of white and 57% of black respondents were enrolled in some form of school or college. Blacks, however, tended to be underrepresented in traditional four- and two-year colleges and slightly overrepresented in trade or vocational schools. The data in Table 4.4, being based on the "primary

Postsecondary Activity Status in Relation to Major Projected Activity for Year After Leaving High School, by Race: Class of 1972 (weighted data, in percent)

		Status in October 1972 (in percent)									
		Enrolled in a School or College[a]				Not Enrolled in a School or College					
								Job Holder[c]			
Projected Major Post High School Activity (SQ 31)	Percent Planning Activity	Four-Year	Two-Year	Trade/Vocational	Total Enrolled	Military[b]	Apprentice[b]	Full Time	Part Time	Not Working	Homemaker[d]
Vocational school	(9.1)	1.9	7.6	(47.8)	(57.3)	(1.8)	(10.2)	(17.8)	(3.3)	(7.8)	(1.8)
Black	(11.7)	1.9	9.1	30.8	41.8	3.8	13.1	18.6	5.4	14.5	2.7
White	(8.8)	1.9	7.4	50.1	59.4	1.6	9.8	17.7	3.0	6.9	1.7
Two-year academic	(11.6)	7.7	61.2	8.6	(77.5)	(1.5)	(4.6)	(8.8)	(2.7)	(4.4)	(0.5)
Black	(5.5)	9.1	40.1	17.4	66.6	1.0	7.5	13.9	0.9	8.7	1.4
White	(12.2)	7.7	62.1	8.2	78.0	1.5	4.5	8.5	2.8	4.2	0.5
Two-year technical	(5.4)	10.8	45.5	17.6	(73.9)	(1.7)	(7.3)	(9.8)	(2.4)	(3.7)	(1.3)
Black	(5.2)	10.7	24.2	17.0	51.9	4.8	8.0	10.6	5.1	15.4	4.2
White	(5.4)	10.9	47.6	17.6	76.1	1.4	7.2	9.7	2.2	2.5	1.0
Four-year college	(35.8)	75.5	6.5	9.0	91.0	(0.6)	(1.9)	(3.3)	(1.1)	(1.8)	(0.3)
Black	(32.9)	62.3	6.2	11.8	80.3	1.6	4.5	4.7	2.5	5.1	1.4
White	(36.1)	76.7	6.6	8.7	92.0	0.5	1.6	3.2	1.0	1.5	0.2
Work full time	(24.3)	2.3	5.5	8.1	(15.9)	(4.0)	(20.0)	(40.6)	(7.9)	(8.3)	(3.2)
Black	(30.2)	4.6	6.5	12.9	24.0	7.0	14.9	26.3	6.9	16.1	4.7
White	(23.7)	2.0	5.4	7.5	14.9	3.7	20.7	42.5	8.0	7.3	2.9
Work part time	(1.9)	5.2	7.9	8.8	(21.9)	(0.5)	(15.0)	(31.7)	(13.1)	(15.0)	(2.8)
Black	(2.5)	10.1	10.9	17.0	38.0	0.0	4.5	18.6	5.3	29.6	4.1
White	(1.9)	4.5	7.5	7.6	19.6	0.5	16.5	33.5	14.2	13.0	2.6
Apprenticeship	(2.6)	3.4	3.8	15.3	(22.5)	4.5	28.7	31.4	5.2	6.8	0.9
Black	(3.2)	6.3	10.7	23.2	40.2	13.7	11.6	19.9	5.7	7.8	1.1
White	(2.6)	3.1	2.9	14.3	20.3	3.3	30.9	32.8	5.1	6.7	0.8

4.13

Table 4.4 (Continued)

		Status in October 1972 (in percent)									
		Enrolled in a School or College[a]				Not Enrolled in a School or College					
								Job Holder[c]			
Projected Major Post High School Activity (SQ 31)	Percent Planning Activity	Four-Year	Two-Year	Trade/Vocational	Total Enrolled	Military[b]	Apprentice[b]	Full Time	Part Time	Not Working	Homemaker[d]
Military service	(3.1)	7.7	1.9	13.2	(23.1)	40.8	8.6	15.9	3.8	7.5	0.5
Black	(3.5)	6.1	2.4	5.7	14.2	47.0	9.4	12.9	3.8	12.6	0.0
White	(3.1)	7.9	1.9	14.1	24.9	40.1	8.5	16.3	3.8	6.9	0.7
Homemaker	(2.6)	1.8	2.0	4.6	(8.4)	(0.0)	(12.4)	(20.4)	(7.8)	(10.8)	(40.1)
Black	(2.0)	9.3	1.6	6.4	17.3	0.0	10.2	17.3	0.0	14.0	41.2
White	(2.7)	1.2	2.1	4.5	17.8	0.0	12.6	20.6	3.4	10.6	40.1
Other	(3.6)	4.9	8.0	7.5	(20.4)	(3.9)	15.3	(32.5)	(10.1)	(15.1)	(2.7)
Black	(3.3)	4.1	9.9	11.1	25.1	8.2	7.2	29.1	1.6	20.4	8.5
White	(3.6)	5.0	7.9	7.2	20.1	3.5	16.1	32.8	10.9	14.6	2.1
Total	(100.0)	29.9	14.6	12.8	(57.3)	3.1	9.6	17.9	4.1	5.6	2.4
Black	(100.0)	24.2	9.6	15.1	48.9	5.7	9.6	15.3	4.4	11.9	3.8
White	(100.0)	30.5	15.1	12.6	58.2	2.9	9.6	18.1	4.1	5.0	2.3

[a] May also have held a job in October 1972, or have entered an apprenticeship training program or military service at any time during follow-up period.

[b] May also have held a job in October 1972--entered service or had apprenticeship/on-the-job training during follow-up period.

[c] "Full time" defined as 35+ hours per week; part time as less than 35 hours per week.

[d] Gave "homemaker," pregancy, and/or family care responsibilities as reasons for not working at a job in October 1972.

activity" classification system introduced in Chapter 3, produces percentages which are not directly comparable to those of Chapter 2. Nevertheless, the data of Table 4.4 extend the earlier discussions by indicating that blacks and whites were about equally represented in combined military service, apprenticeship and working categories, but approximately 12% of blacks as compared to 5% of whites were not gainfully occupied, i.e., were not working at a job and were not students, trainees, military personnel or homemakers.

While these differences by race in actual outcomes are notable, they are less pronounced than differences by race with respect to the degree of agreement between plans and outcomes. Blacks with plans for further education as high school seniors were less likely to be enrolled in a school or college than their white classmates, a result which is consistent with the findings of Roderick and Davis.[4] Blacks with plans for full-time employment were also less likely to be employed full time or part time. However, in every plans category not calling for further education, proportionately more blacks than whites were enrolled in a school or college. Thus, the general relationship between expectations and outcomes tended to be lower for blacks than for whites--blacks as compared to whites less frequently were doing in October 1972 what they had said they expected would take the largest share of their time in the year after high school. Among those who had planned to attend a trade or vocational school 50% of whites but only 31% of blacks did so.

Among those who had planned academic courses in a two-year college, only 40% of blacks as compared to 62% of whites actually enrolled in a two-year college in October 1972; less than one-fourth of the blacks (24%) but 48% of whites planning technical two-year college work were in a two-year college.

Blacks who had planned to attend a four-year college fared better in plans realization than those who had planned to attend a two-year college or a trade school--62% of black planners were enrolled in a four-year college as compared to 77% of whites with comparable plans. Moreover, 80% of the black plans group entered some form of postsecondary education in October 1972 as compared to 92% of whites. Thus, in all plans categories calling for further education, proportionately fewer blacks than whites were enrolled in a school or college and proportionately more were employed full or part time, serving as military personnel or apprentices, and unemployed, respectively.

Among black high school seniors who had looked forward to full-time employment, only 26% were working at a job 35 or more hours per week in October 1972, and an additional 15% reported on-the-job training or apprenticeships, as compared to 42% and 21% in these activities among their white classmates who had similar plans. Moreover, 16% of blacks were not gainfully occupied as compared to only 7% of whites. However, proportionately more blacks (24%) than whites (15%) who had planned full-time work wound up in a school or college, a pattern that obtained for all other plans-categories except military service.

Among those who had expected part-time work, 38% of blacks but only 20% of whites were actually enrolled as students; 40% of blacks but only 20% of whites who had planned apprenticeships became "students" instead; similar trends obtained for prospective homemakers and for those who had indefinite plans ("Other"). Only in the case of those who had planned to enter military service did blacks more frequently realize the plan than whites--47% entered service during the follow-up period as compared to 40% of whites who had planned to do so.

It is of interest to note that approximately 12% of all black respondents generally were not working, as compared to approximately 15% of those who had planned to attend a trade school or to take technical courses in a two-year college, 16% of those who had planned full-time work, almost 30% of those who looked forward to part-time work and 20% of those with indefinite plans. Of those planning an academic education in a two- or four-year college, proportionately fewer were not gainfully employed.

Among blacks, those who as high school seniors were oriented to continuation of their education along "traditional" academic lines appear to have had better prospects of becoming either students or workers (including apprentices, service personnel, and homemakers)--of being "gainfully employed"--than their nonschool-oriented counterparts even though the latter quite frequently found themselves in a school or college rather than at work. Thus, for blacks, and for vocational and general curriculum graduates, outcomes in the year after high school were less predictable than for whites and seniors from academic curricula.

Generally speaking, as compared to differences by race and curriculum, sex differences in plans-outcomes relationships are relatively slight, as may be determined from the data in Table 4.5. Proportionately more women (53%) than men (41%) realized plans for attending a trade or vocational school, but for other plans categories calling for further education, sex differences in plans realization were negligible. Proportionately more female than male graduates were not "gainfully employed" and this condition obtained for every plans category. Only about 5% of all female graduates were classified as "full-time homemakers" in October 1972 by a definition that specified "homemaker" in terms of not being a student, not holding a job, and giving "being a full-time homemaker" or a family-responsibility-related reason for not holding a job in October 1972.

Table 4.5

Postsecondary Activity Status in Relation to Major Projected Activity for Year After Leaving High School, by Sex: Class of 1972 (weighted data, in percent)

Projected Major Post High School Activity (SQ 31)	Percent Planning Activity	Status in October 1972 (in percent)									
		Enrolled in a School or College[a]				Not Enrolled in a School or College					
								Job Holder[c]			
		Four-Year	Two-Year	Trade/ Vocational	Total Enrolled	Military[b]	Apprentice[b]	Full Time	Part Time	Not Working	Homemaker[d]
Vocational school	(9.1)	1.9	7.6	47.8	(57.3)	(1.8)	(10.2)	(17.8)	(3.3)	(7.8)	(1.8)
Female	(10.5)	2.0	7.2	52.7	61.9	0.8	8.8	13.5	4.0	8.0	3.0
Male	(7.6)	1.7	3.2	40.9	51.8	3.3	12.2	23.8	2.3	7.5	0.1
Two-year academic	(11.6)	7.7	61.2	8.6	(77.5)	(1.5)	(4.6)	(8.8)	(2.7)	(4.4)	(0.5)
Female	(11.6)	7.7	61.0	9.6	78.3	0.4	4.0	8.5	2.7	4.9	1.1
Male	(11.6)	7.8	61.3	7.5	76.6	2.5	5.3	9.0	2.7	3.9	0.0
Two-year technical	(5.4)	10.8	45.5	17.6	(73.9)	(1.7)	(7.3)	(9.8)	(2.4)	(3.7)	(1.3)
Female	(5.5)	10.8	44.3	18.4	73.5	0.2	8.6	8.6	2.8	4.1	2.2
Male	(5.2)	10.8	46.8	16.6	74.2	3.3	5.9	11.0	2.1	3.2	0.3
Four-year college	(35.8)	(75.5)	(6.5)	(9.0)	91.0	(0.6)	(1.9)	(3.3)	(1.1)	(1.8)	(0.3)
Female	(34.5)	76.3	5.4	9.3	91.0	0.0	1.9	3.3	1.1	2.1	0.5
Male	(37.1)	74.7	7.6	3.6	90.9	1.1	1.8	3.4	1.1	1.5	0.1
Work full time	(24.3)	2.3	5.5	8.1	(15.9)	(4.0)	(20.0)	(40.6)	(7.9)	(8.3)	(3.2)
Female	(25.5)	1.7	4.4	8.7	14.8	[illegible]	19.3	40.4	9.8	9.6	5.8
Male	(23.1)	3.0	6.8	7.5	17.3	8.1	20.9	40.9	5.8	6.9	0.1
Work part time	(1.9)	5.2	7.9	8.8	(24.8)	(0.5)	(15.0)	(31.7)	(13.1)	(15.0)	(2.8)
Female	(2.1)	4.4	5.3	5.2	14.9	0.4	14.7	31.4	18.1	15.4	5.1
Male	(1.8)	6.2	11.1	13.2	30.5	0.5	15.4	32.0	7.1	14.5	0.0
Apprenticeship	(2.6)	3.4	3.8	15.3	(22.5)	4.5	28.7	31.4	5.2	6.8	0.9
Female	(1.4)	0.5	5.5	25.7	31.7	0.0	17.4	30.0	8.9	8.9	3.1
Male	(3.9)	4.5	3.2	11.5	19.2	6.1	33.0	31.9	3.7	6.1	0.0

Table 4.5 (Continued)

Projected Major Post High School Activity (SQ 31)	Percent Planning Activity	Status in October 1972 (in percent)									
		Enrolled in a School or College[a]				Not Enrolled in a School or College					
								Job Holder[c]			
		Four-Year	Two-Year	Trade/Vocational	Total Enrolled	Military[b]	Apprentice[b]	Full Time	Part Time	Not Working	Homemaker[d]
Military service	(3.1)	7.7	1.9	13.2	(22.8)	40.8	8.6	15.9	3.8	7.5	0.6
Female	(0.8)	7.1	2.6	5.1	14.8	22.5	11.8	23.3	9.8	12.9	4.8
Male	(6.9)	7.8	1.8	14.4	24.0	43.4	8.1	14.8	2.9	6.7	0.0
Homemaker	(2.6)	1.8	2.0	4.6	(8.4)	(0.0)	(12.4)	(20.4)	(7.8)	(10.8)	(40.1)
Female	(5.2)	1.8	1.8	4.6	8.2	0.0	12.5	20.2	7.9	10.9	40.4
Male	(0.03)	--	--	--	0.0	--	--	--	--	--	--
Other	(3.6)	4.9	8.0	7.5	(20.4)	(3.9)	(15.3)	(32.5)	(10.1)	(15.1)	(2.7)
Female	(2.9)	4.1	9.5	7.2	20.8	1.3	14.0	28.7	10.4	18.2	6.6
Male	(4.3)	5.4	7.1	7.8	20.3	5.6	16.2	35.1	9.8	13.0	0.0
Total	(100.0)	29.9	14.6	12.8	57.3	3.1	9.6	17.9	4.1	5.6	2.4
Female	(100.0)	28.3	13.9	14.1	56.8	0.5	9.1	17.5	5.1	6.4	4.7
Male	(100.0)	31.0	15.3	11.6	57.9	5.9	10.0	18.3	3.2	4.8	0.1

[a] May also have held a job in October 1972, or have entered an apprenticeship training program or military service at any time during follow-up period.

[b] May also have held a job in October 1972--entered service or had apprenticeship/on-the-job training during follow-up period.

[c] "Full time" defined as 35+ hours per week; part time as less than 35 hours per week.

[d] Gave "homemaker," pregnancy, and/or family care responsibilities as reasons for not working at a job in October 1972.

Among those who had planned full-time work, sex differences in realization of this outcome were slight; slightly over 40% of both sex groups were working full time. However, 8% of males with this plan entered military service as compared to less than one-half of 1% of female graduates and proportionately more women were not full-time participants in the labor market.

Proportionately fewer women (17%) than men (33%) realized plans to become apprentices, but over one-fourth (26%) of women as compared to about 12% of men with such plans enrolled in a trade, vocational or other noncollegiate school.

Women with plans for military service as high school seniors less frequently realized those plans than men--about 22% of women but 43% of men who had planned to enter service did so, but the incidence of plans for military service among women was less than 1%. Females planning but who did not enter service tended to be full-time employed instead; males who failed to carry out plans to enter military service tended to become students instead.

4.3 Background Variables Associated with Realization of Educational Plans and Aspirations

Regression Analyses

High school seniors who expected to attend a school or college in the year after high school were classified as planning to continue their education.[5] A total of 9,021 individuals were so classified. This total was comprised of 7,812 white and 1,219 black respondents.

Those who had projected further education at any level (i.e., four-year, two-year, or trade or vocational in their responses to the base-year plans item (SQ 31) were classified according to their follow-up responses as either enrolled or not enrolled in a school or college in October 1972, forming for each racial group a "plans realized" and a "plans not realized" group as shown in Table 4.6

Table 4.6

Realization of Educational Plans
by Each Racial Group

Race	Educational Plans, Total	Educational Plans Realized		Educational Plans Not Realized	
	N	N	%	N	%
Black	1,219	751	61.6	468	38.4
White	7,812	6,038	77.3	1,774	22.7
Total	9,031	6,789	75.2	2,242	24.8

Slightly over three-fourths of the combined sample realized plans for further education by being enrolled in a school or college of some type. Some 61.6% of blacks as compared to 77.3% of whites realized their plans.

Separate analyses were conducted for blacks and whites, respectively. "Plans realized" vs. "plans not realized" was treated as a 1,0 criterion variable. Using missing data procedures, correlations among the variables were determined. Independent variables were those comprising the 18-variable base-year battery plus sex (female = 2, male =1) and academic curriculum (academic = 1, other curricula = 0).

These correlation matrices provided a basis for stepwise selection of independent variables in terms of their contribution to R^2 following fixed introduction of five variables, namely, four ability scores and the imputed high school grade point average. Stepwise selection of variables was halted when none of the variables remaining contributed .001 or more to R^2.

Shown in Table 4.7 are the correlation coefficients for the respective independent variables versus the realization/nonrealization of plans criterion. Positive coefficients indicate that the mean score of the plans-realized group was higher than that for the plans-not-realized group on the variable involved, while negative coefficients indicate the opposite. Also shown for each independent variable is the number of observations on which the coefficient is based.

Results of the multiple stepwise regression analyses are summarized in Table 4.8 which shows the independent variables selected on the basis of a contribution of at least .001 to R^2, following fixed introduction of four scores from the ability battery and the imputed high school grade point average. The following information is provided regarding the variables:

(a) the correlation coefficient for that variable versus plans realization/nonrealization,

(b) the multiple correlation coefficient resulting from the addition of a predictor,

(c) the standardized regression coefficients for the variables finally selected.

Table 4.7

Correlation of Base-Year Variables with Realization vs. Nonrealization of Plans for Education, by Race (unweighted data)

	Black		White	
Variables	N	r	N	r
VOCAB	1125	.21	7471	.25
READING	1125	.25	7471	.25
LETTER GRP	1125	.22	7471	.22
MATH	1125	.29	7471	.30
IMPT GPA	1101	-.21	7524	-.28
SELFABIL	1208	.22	7783	.28
FREE INT	1214	.10	7802	.15
SCH QUAL	1202	-.03	7798	.07
OUTLOOK	1206	.13	7783	.13
YRS CMTY	1212	.02	7800	.04
URBAN	1176	.09	7736	.06
SIBLINGS	1115	-.03	7618	-.00
STUD OCC	682	.23	6609	.23
FAMILY ED	1008	.15	7527	.21
FAM ASPR	1015	.34	7248	.35
PROJ ED	822	.34	7010	.37
FAM INCM	988	.17	6327	.16
FAM OCC	759	.12	6819	.17
SEX	1218	.05	7811	.02
ACAD CUR	1219	.28	7811	.36

Table 4.8

Results of Stepwise Multiple Point Biserial Regression Analysis, Plans Realized vs. Plans Not Realized

Independent Variable	Zero-order Coefficient	Multiple R after Step	Standardized Regression Coefficient
Whites			
Ability + grades	345	345	140
Projected educational level	372	422	148
Academic curriculum	359	447	158
Self-assessed ability to complete college	277	453	071
Family educational level	213	458	071
Years lived in community	043	462	061
Family aspiration level for student's education	348	465	082
Freedom from interfering factors in high school education	148	467	048
Sex (Female = 2, Male = 1)	024	469	043
Blacks			
Ability + grades	324	324	162
Family aspiration level	341	395	138
Projected educational level	336	413	128
Academic curriculum	278	420	073
Student occupational level	233	424	069
Family income level	168	429	060
School quality	-029	433	-068
Self-assessed ability to complete college	227	436	053
Sex (Female = 2, Male = 1)	040	438	044
Freedom from interfering factors	098	439	039

For both races the same set of variables was most closely associated with realization vs. nonrealization of plans calling for enrollment in a school or college in October 1972, namely, ability plus grades in school, family aspiration level for a student's education, student's projected educational level (average of plans and aspirations), and having pursued an academic curriculum. While the order of introduction of these variables varied slightly by race, they made the greatest joint contribution to separation of "plans realized" and "plans not realized" groups in both analyses.

Variables contributing to plans realization for blacks but not whites were level of student's planned occupation, family income level, and school quality as perceived by a student. Interestingly, this latter variable was _negatively_ related to plans realization. Variables contributing to plans realization for whites but not for blacks were family educational level and years lived in the community.

Other independent variables selected in _both_ analyses were self-assessed ability to complete college, freedom from interfering factors in obtaining an education, and sex. After other contributing factors were controlled, females were slightly more likely to realize plans for further education than males.

These results indicate clearly that among individuals who had planned to continue their education as high school seniors, the likelihood of actual enrollment in a school or college _of any type_ in October 1972 was greatest for those with higher ability, who had completed an academic curriculum, whose plans called for a longer period of post-secondary education, and who reported parental concurrence in these plans.

Prospects for enrollment for individuals with these characteristics would have been enhanced if they had reported greater confidence in their ability to complete college, experienced few interfering factors during their secondary education, and were female.

For blacks with all these characteristics, likelihood of plans realization would have been further enhanced if the family income level and the level of the individual's planned occupation had been high and if the high school attended had been perceived as being of somewhat poorer quality. This apparently anomalous finding may be explicable, in part, in terms of an effect of programs of encouragement and financial assistance for minority students in "disadvantaged" areas. A further explanation may be that the brighter student is more likely to detect inadequacies in his school.

For whites, plans realization would have been more likely if, in addition to the basic characteristics conducive to plans realization, both the family educational level and tenure in the community had been high.

Considering the opposite side of the plans realization coin, enrollment in a school or college of any type among individuals whose plans called for such enrollment was least likely if they were in a vocational or general curriculum, if their plans called for less extensive postsecondary education (e.g., attending a trade or vocational school rather than a traditional four- or two-year college), if their parents reportedly did not want more extensive education for them, and if their tested ability and grades in school were comparatively low.

It is important to note here that results of analyses in the total sample without regard to race (not shown in Table 4.8) essentially reflected results for the sample of whites. Moreover, in the combined sample analysis, while race (white vs. minority) was associated with plans realization (correlation coefficient = .12), this variable did not enter the final equation--i.e., did not contribute to plans realization after other variables were controlled. Thus, even though proportionately fewer blacks than whites realized plans for enrollment, race per se does not appear to have been a contributing factor to this outcome.

Structural Analysis

The responses to item SQ 81 in which students were asked what they would most like to do the year after graduation were compared to what they were actually doing at the end of that year (Fall 1973). A structural model was developed to explain what caused students to do something different from what they wished or aspired to do. Figure 4.1 presents the causal model, and Table 4.9 gives the magnitude of the direct and indirect effects shown in the model. In this model selected new constructs were included in addition to the usual environmental and/or control variables. A special effort was made to evaluate the impact of parental, peer, and school counseling influences on level of educational-occupational aspirations when environmental variables such as SES are held constant.

It can be seen from the figure and the table that the construct "parental influence," as measured by frequency of discussion of plans and reported parental influence, does have a significant effect on level of

Figure 4.1

Structural Model of Discrepancy Between Current Activity and Previous Aspiration

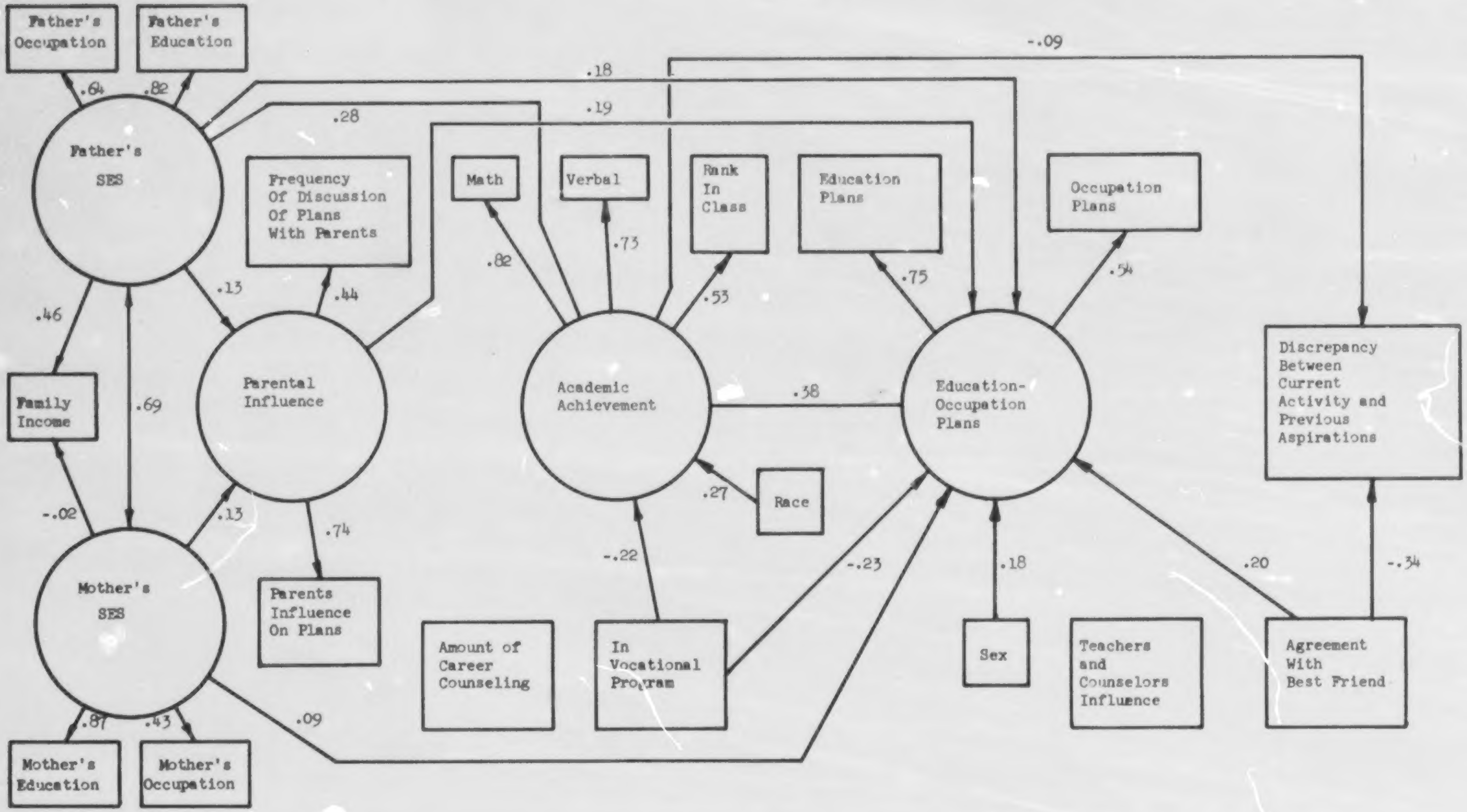

Father's Occupation
Father's Education
.64
.82
Father's SES
.18
.28
.19
-.09
Frequency Of Discussion Of Plans With Parents
.13
.44
Math
Verbal
Rank In Class
Education Plans
Occupation Plans
.82
.73
.53
.75
.54
.46
Family Income
.69
Parental Influence
Academic Achievement
.38
Education-Occupation Plans
Discrepancy Between Current Activity and Previous Aspirations
-.02
.13
.74
.27
Race
Mother's SES
-.22
-.23
.18
.20
-.34
Parents Influence On Plans
Amount of Career Counseling
In Vocational Program
Sex
Teachers and Counselors Influence
Agreement With Best Friend
.87
.43
.09
Mother's Education
Mother's Occupation

Table 4.9

Direct and Indirect Effects Causing a Discrepancy Between Current Activity and Previous Aspiration

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Academic Achievement (R = .54)			
Father's SES	.28		.28
Mother's SES	.06		.06
Parental Influence	.03		.03
Art of Career Counseling	-.01		-.01
In Vocational Program	-.22		-.22
Sex	-.01		-.01
Teacher's and Counselor's Influence	.00		.00
Race	.27		.27
Agreement with Best Friend	.00		.00
Educational-Occupational Plans (R = .78)			
Father's SES	.18	.10	.28
Mother's SES	.09	.02	.11
Parental Influence	.19	.01	.20
Art of Career Counseling	.06	-.01	.05
In Vocational Program	-.23	-.08	-.31
Sex	.18	-.01	.17
Teacher's and Counselor's Influence	.00	.00	.00
Race	.00	.10	.10
Agreement with Best Friend	.20	.00	.20
Academic Achievement	.38		.38

Table 4.9 (Continued)

Direct and Indirect Effects Causing a Discrepancy Between Current Activity and Previous Aspiration

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
	Change of Plans (R = .36)		
Father's SES	-.00	-.02	-.02
Mother's SES	-.02	-.01	-.03
Parental Influence	-.01	.00	-.01
Art of Career Counseling	-.02	.00	-.02
In Vocational Program	.00	.01	.01
Sex	.00		.00
Teacher's and Counselor's Influence	.00		.00
Race	-.04	-.02	-.06
Agreement with Best Friend	-.34	.01	-.33
Academic Achievement	-.08	.01	-.07
Occupational Plans	.02		.02

educational-occupational plans independent of parental SES. In fact, amount of reported parental influence is only mildly correlated with SES. In short, it would seem that parents do have a significant advisory impact on their sons and daughters with respect to their educational and career plans independent of SES and achievement constructs.

Conversely, reported teacher and counselor influence has no effect on educational and career plans when SES and achievement constructs are held constant. It is also interesting to note that agreement of one's activity status with one's best friend has a strong relationship with level of educational-occupational plans. That is, those individuals who aspire to a high level on the education and career ladder also tend to have a best friend with similar aspirations. It would appear that a significant portion of the variance in education and career aspirations is primarily a function of parental and peer advice and support, independent of SES and academic achievement. Peer effect is somewhat stronger in this study that that found by Duncan.[6] Conversely, the more formal counseling procedures available from school counselor and teachers have little or no impact on education and career ladder plans.

Further evidence for the importance of informal advisory or counseling advice and/or support is the relatively large impact of "agreement with best friend" on the discrepancy between aspirations at the high school level and actual postsecondary activities. The negative path coefficient ($b^* = -.34$) indicates that the individuals who would like to do the same things after high school as their best friends tend actually to realize their plans. It is also interesting to note that, after controlling for

SES, level of educational-occupational plans, and peer agreement, there is a small negative path coefficient from academic achievement to aspiration/actualization discrepancy. This indicates that there is a greater tendency for the low rather than high achievers not to actualize their wishes. This tendency is independent of SES and level of educational-occupational plans. This phenomenon may simply reflect an inability of low achievers to cope with some of the requirements of postsecondary education and occupations, so that low achievers would be more likely required to realign their goals.

There is some indication that blacks may have a slight tendency to rely more on external advising or counseling sources than whites. The low but consistent pattern of intercorrelations in Table 4.10 suggest that blacks are slightly more likely than whites to report that their career decisions are influenced by parents, teachers, counselors and friends. This somewhat positive finding suggests that blacks may be perceiving a broadening of their educational-career opportunities and thus making use of available counseling services. Also, it is possible that these services are now reaching those individuals who have the greatest need.[7]

Table 4.10

Correlations Between Race and Four Sources of Career Influence

	Race
Parental Influence	-.08
Amount of Career Counseling	-.09
Teacher's & Counselor's Influence	-.15
Agreement with Best Friend	-.09

In summary then, parental and peer influence has a considerably greater impact on post high school occupational plans than do the more formal counseling procedures available in the school systems. However, when it comes to actualizing aspirations, parental influence vanishes and the only significant determinant is "agreement with best friend." It would appear that, as an individual gets older and leaves high school, parental influence becomes much less important, compared to peer influences--and possibly the realities of job or educational requirements which may then become the significant determinants of whether one continues to pursue career goals set earlier in life. The real impact of post high school work experiences and/or college on career aspirations must await further data.

4.4 Background Variables Associated with Realization of Employment Plans Regression Analysis

Approximately one-fourth (24.3%) of those individuals completing both the base-year Student Questionnaire and the First Followup Questionnaire indicated by their base-year response to item SQ 31 that working full time would probably take the largest share of their time in the year after high school. Of this plans-group, approximately two-fifths (41%) were classified as working full time in October 1972 (35+ hours per week) and some 19.2% were classified as working part time (less than 35 hours per week) or not working at a job. The remaining 50% among those planning to work full time were classifiable as civilian students or trainees (apprenticeships/on-the-job training), or in service.

This analysis is concerned with the identification of base-year variables that differentiate between those individuals who planned to work full time and were doing so in October 1972 and those who expected to be working full time but who were not working at a job in October 1972 or were working only part time (and were not participants in postsecondary education or training, or in service). The "not-working" group includes individuals who were actively seeking employment as well as those who were not actively seeking to participate in the labor market (e.g., women employed as full-time homemakers). Proportionately fewer blacks than whites realized plans to work full time, and proportionately more blacks than whites were included among the part-time and nonworking group.

The sample available for analysis consisted of 2,619 white and 520 black respondents who planned to work full time. Their October 1972 activity-state outcomes were distributed as shown in Table 4.11.

Table 4.11

Current (1972) Activity States of Individuals Who, as Students, Planned to Work Full Time after Graduation

Group	N	Working Full Time		Not Working or Part Time		Trainee/ Student	
		No.	%	No.	%	No.	%
Blacks	520	141	(27.1)	120	(23.1)	259	(49.8)
Whites	2,619	1,203	(45.9)	305	(11.6)	1,111	(42.4)

For each race, the criterion groups identified for analysis consisted of full-time workers, part-time workers, and nonworkers, respectively.

Working full time versus working less than full time or not working at all was treated as a 1,0 criterion variable. Using missing data procedures, correlations among the variables were determined. Independent variables were those comprising the 18-variable base-year battery plus sex (female = 2, male = 1) and vocational curriculum (vocational = 1, other = 0).

These correlation matrices provided a basis for stepwise selection of independent variables. Following the forced introduction of five variables (scores on vocabulary, reading, letter group, mathematics, respectively, and the imputed grade point average), stepwise selection proceeded until all variables contributing .001 or more to R^2 had been selected.

Shown in Table 4.12 are the correlation coefficients for the respective independent variables. Positive coefficients indicate that the mean score of those working full time was higher than that for part-time/nonworkers while negative coefficients indicate the opposite. Also shown for each independent variable is the number of observations on which the coefficient is based.

From these correlations for each race, sex and ability represent the most potent single variables differentiating the full-time worker from the part-time or nonworker: full-time employment was associated with higher ability, better high school grades, and being a male rather than a female. These factors yielded larger coefficients--indicating greater separation of workers from nonworkers--among blacks than among

Table 4.12

Correlation of Base-Year Variables with Working Full-time vs. Less Than Full-time Criterion, by Race: Planners Only

Independent Variable	N	Mean	SD	Correlation
Whites				
VOCAB	1443	5.06	3.63	0.047
READING	1443	7.98	4.50	0.049
LETTER GRP	1443	14.78	5.87	0.094
MATH	1443	9.64	6.28	0.127
IMPT GPA	1437	8.48	2.88	-0.036
SELFABIL	1471	3.40	1.13	0.060
FREE INT	1502	9.33	2.92	0.015
SCH QUAL	1504	3.43	1.72	0.067
OUTLOOK	1498	5.82	1.69	0.059
YRS CMTY	1506	4.99	1.32	0.073
URBAN	1482	2.47	1.28	0.009
SIBLINGS	1444	1.90	1.68	0.024
STUD OCC	1066	42.59	19.25	-0.090
FAMILY ED	1359	2.06	1.22	0.022
FAM ASPR	1197	3.20	1.03	-0.018
PROJ ED	1233	2.72	1.01	0.058
FAM INCM	1173	5.01	2.56	0.057
FAM OCC	1170	34.23	19.78	0.006
SEX	1507	1.57	0.49	-0.143
VOC CUR	1507	0.49	0.49	0.053
Blacks				
VOCAB	241	1.76	2.56	0.116
READING	241	3.08	3.53	0.132
LETTER GRP	241	8.36	5.92	0.197
MATH	241	3.50	4.41	0.311
IMPT GPA	240	9.62	3.03	-0.091
SELFABIL	252	3.40	1.14	0.041
FREE INT	258	8.39	3.25	0.065
SCH QUAL	253	3.09	1.80	0.101
OUTLOOK	254	5.20	1.61	0.077
YRS CMTY	260	4.58	1.54	-0.024
URBAN	248	2.84	1.38	0.037
SIBLINGS	221	2.60	2.03	0.093
STUD OCC	107	47.23	20.76	-0.047
FAMILY ED	174	1.69	1.06	-0.028
FAM ASPR	175	3.59	1.12	0.064
PROJ ED	163	2.96	1.25	-0.046
FAM INCM	207	2.68	2.05	0.104
FAM OCC	121	23.96	15.32	0.128
SEX	261	1.63	0.48	-0.186
VOC CUR	261	0.42	0.49	0.024

whites. It is noteworthy that ability variables and GPA are more closely related to employment among blacks than among whites.[8]

Results of the multiple stepwise regression analysis are summarized in Table 4.13, which shows the independent variables selected as contributing to discrimination of full-time workers from part-time and nonworkers by adding at least .001 to R^2 after the forced introduction of four ability scores and the high school grade point average. The multiple correlation coefficient yielded by an added variable is indicated in the table as well as that yielded by the entire set of variables finally selected.

Beyond the evidence that for both races, gaining or not gaining full-time employment by those who had planned to do so was associated most closely with ability and sex, there are some differences by race in the pattern of variables identified in the regression analysis after taking sex and ability into account. For whites but not for blacks, having pursued a vocational high school curriculum contributed significantly to differentiation of full-time from part-time or nonworkers.

Other variables selected for whites but not for blacks were level of student's planned occupation (workers characterized by lower-level plans than nonworkers), family aspiration level for student's education (lower for workers), and optimism in outlook (higher for workers).

Variables that were selected for blacks but not for whites were family occupational level (higher for workers) and number of siblings (higher for workers).

Table 4.13

Variables Differentiating Full-time Workers from Part-time and Non-workers in a Sample of Individuals Who Had Projected Full-time Employment for the Year After Leaving High School: Results of Stepwise Multiple Point Biserial Regression Analysis

Independent Variable	Correlation	R After Step	Standard Regression Weight
Whites			
Vocabulary	047		013
Reading	050		-035
Letter group	095		096
Mathematics	128		065
Imputed Grade Point Average	-036	135	-023
Sex (F = 2, M = 1)	-144	203	-150
Vocational curriculum (1,0)	053	218	069
Years lived in community	074	228	060
Level of student's planned occupation	-091	236	-071
School quality as perceived	067	242	047
Student's projected educational level	058	247	075
Family aspiration level	-018	252	-069
Optimism in outlook	059	256	044
Family income	057	259	043
Blacks			
Vocabulary	117		010
Reading	133		034
Letter group	197		090
Mathematics	311		244
Imputed Grade Point Average	-091	316	-044
Sex	-187	373	-241
Family occupation	128	396	123
Projected educational level	-046	417	-125
School quality as perceived	101	422	072
Family income	105	425	056
Years lived in the community	-025	428	062
Number of siblings	093	432	054

Criterion groups: Planned full-time employment
Whites Working full time = 1203
Not working or part time only = 305
Blacks Working full time = 141
Not working or part time only = 120

Variables other than ability and sex that were common to both analyses were years lived in the community (positively weighted in final equation for both races), quality of school as perceived by student (positively weighted), student's projected educational level (positively weighted for whites, negatively weighted for blacks), and family income (positively weighted for both races).

In conclusion, results of the analysis lend some support to the idea that vocational preparation for whites in high school may have beneficial effects (i.e., enhance the likelihood of gainful employment), but failure of this variable to be selected in the analysis for blacks, and its generally small contribution relative to ability and sex suggests that the contribution is limited.[9]

4.5 Plans and Aspirations Expressed After Graduation

This phase of the study deals with levels of plans and aspirations, expressed by members of the NLS sample in response to the First Follow-up Questionnaire (FFQ), approximately 1-1/2 years following high school graduation. Such decisions are to be contrasted, generally, for those respondents who had been enrolled in differing high school curriculum programs (general, academic, vocational), for the sexes, and for those of different racial groups (whites and blacks). In addition, contrasts between these results and base year findings[10] will be discussed where feasible (i.e., where comparable items or item formats used in the base year Student Questionnaire (SQ) and the FFQ allow for such contrasts).

Decision variables for analyses included respondents': (a) general plans--for future activities during the coming year, (b) general aspirations or values for "lifetime" outcomes or achievements, (c) level of educational plans, (d) level of educational aspirations, (e) level of vocational plans and (f) plans for family size.[11]

General Plans for 1974

General plans were responded to in terms of anticipated overall activities for the subsequent year (1974). The distribution for the response categories in percentages is shown in Table 4.14.

Table 4.14

General Plans for Coming Year (October 1974)

(% Responses by Subgroup)

	Sex		Race		Curriculum		
	M	F	White	Black	Gen.	Academic	Voc.
1. Work Full or Part Time	64	66	65	64	70	54	77
2. Take Voc.-Tech. Courses	17	15	14	25	19	13	18
3. Take Academic College Courses	43	38	42	38	28	67	16
4. Armed Forces	9	1	4	7	7	4	5
5. Homemaker	2	32	18	16	20	10	25
6. Other	4	4	4	2	4	3	4

Since the item format (FFQ 16) allowed the respondent to choose one or more of the activity categories, the group totals exceed 100%. The resulting pattern for all subgroups is one in which the dominant planned activity is "full-or part-time work" with "enrollment in academic college courses" as the next most frequent choice. For that latter category males

(43%) are more likely to select the academic college course option than females (38%); whites (42%) more so than blacks (38%) and--in expected overwhelmingly larger numbers--academic curriculum high school graduates (67%) more so than those of the general or vocational curriculum groups (27% and 16% respectively). Other contrasts of note are the considerably larger proportion of blacks in comparison to whites who plan to be taking vocational-technical courses during the coming year (1974) and the larger proportion of blacks who plan to enter the armed forces.[12]

General Aspirations: Life Values

General aspirations, expressed as desires for lifetime accomplishment (FFQ 20), produced mean category values for the total sample as shown in Table 4.15.

Table 4.15

General Aspirations
(Overall Means; N = 14,700)

Response Category	Mean
1. Successful in Line of Work	2.79
2. Good Marriage and Happy Family Life	2.83
3. Having Lots of Money	1.90
4. Strong Friendships	2.68
5. Able to Find Steady Work	2.64
6. Be a Leader in Community	1.63
7. Provide Better Opportunity for Children	2.59
8. Live Close to Parents and Relatives	1.65
9. Get Away from this Area of Country	1.39
10. Correct Social or Economic Inequalities	1.97

The several dominant choices aspired to over a lifetime are, in order of preference, "good marriage and happy family life" ($M = 2.83$), "success in line of work" ($M = 2.79$) and "having strong friendships" ($M = 2.68$). The first two of these preferences were also among the three dominant choices in the base year (1972) results. One shift that occurs, however, is in the rank of the "strong friendships" category, which assumes the third ranked position for this follow-up sample, but had been fourth ranked in the earlier SQ responses.

Given the relatively large sample size ($N \doteq 19{,}000$), multivariate analyses of variance (MANOVA) for the 10 categories as dependent variables, indicates the expected result of highly significant differences among these means. Any single category mean is also significantly different from the mean of the category closest to it in value. From the trace values for the independent variables, it was shown that sex (trace = .85) contributed proportionately more to the overall mean differences than did the variable of high school curriculum (trace = .60).

Of primary interest is the analysis of dominant general plans preferences in terms of mean differences between the sexes and curriculum subgroups, as well as interaction effects between these two variables. Because of the large sample sizes, interpretations of significant F-ratios will be made only where the p-value is at the .01 level or better.

"Good marriage and happy family life," as the most important of the general aspirations category produced the ANOVA summary shown in Table 4.16.

Table 4.16

"Good Marriage and Happy Family Life"
ANOVA Summary

Source	Mean Square	df	F-ratio	p-value
Sex	13.9	1	67.3	<.01
Curriculum	2.0	2	9.5	<.01
Error	0.2	19172		
Sex x Curriculum	1.0	2	N.S.	

Sex, as would have been anticipated, produced the largest differences with females (M = 2.86) placing more emphasis on this outcome than males (M = 2.79).[13] The curriculum variable, which shows a lesser level of significance, reflects the effect of a higher mean score for the vocational curriculum graduates (M = 2.85) than for the general (M = 2.83) or academic (M = 2.81) subgroups. The interaction effect does not quite reach significance at the .01 level.

The second most valued lifetime aspiration was "success in line of work." ANOVA results are shown in Table 4.17.

Table 4.17

"Success in Line of Work"
ANOVA Summary

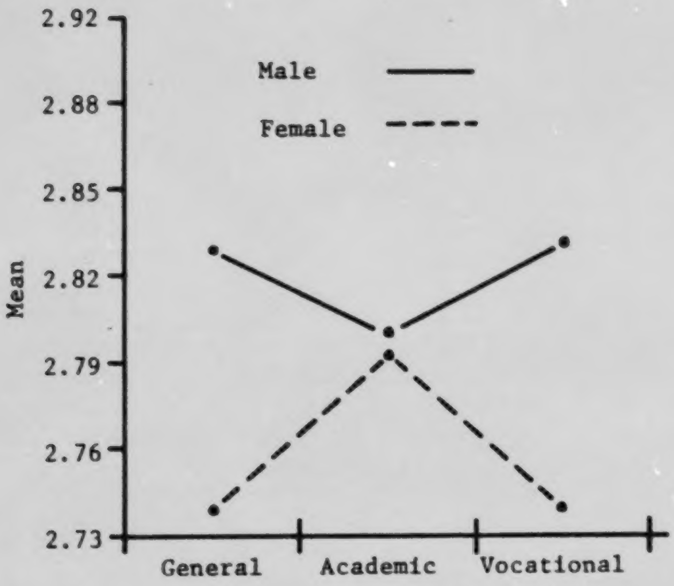
Source	Mean Square	df	F-ratio	p-value
Sex	17.4	1	90.5	<.01
Curriculum	0.5	2	N.S.	
Error	0.2	19172		
Sex x Curriculum	4.4	2	22.9	<.01

The main effect for sex occurs as a result of males attaching more importance to this lifetime outcome (M = 2.82) than females (M = 2.75).

A relatively strong sex by curriculum interaction, which is shown in Figure 4.2, results from the greater stress placed on this aspirational outcome by former female academic curriculum enrollees in comparison to those of the general and vocational curricula, while just the reverse is found for males. No significant difference occurs between respondents on the basis of curriculum group membership.

Figure 4.2

"Success in Line of Work"
as an Aspirational Outcome--
Sex by Curriculum Interaction



"Strong friendships" can be seen from Table 4.18 to produce highly significant differences between the sexes (F=50.8, $p < .001$) and curriculum subgroups (F= 70.7, $p < .001$) along with a moderate level of significance for the interaction of those variables (F = 9.5, $p < .01$). The sex

Table 4.18

"Strong Friendships" -
ANOVA Summary

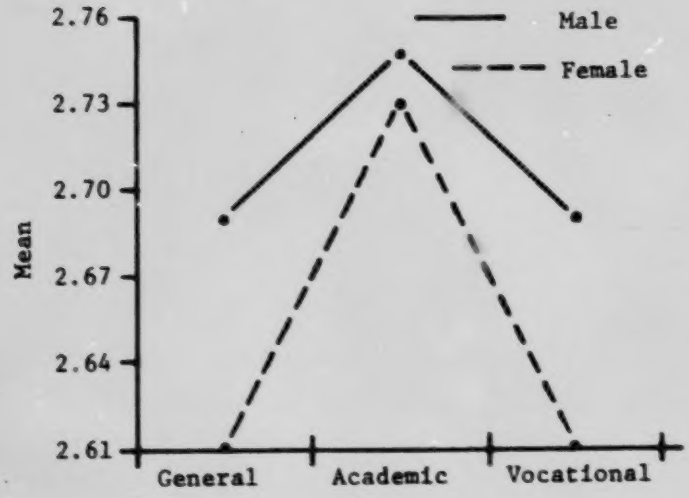
Source	Mean Square	df	F-ratio	p-value
Sex	13.5	1	50.8	<.01
Curriculum	18.8	2	70.7	<.01
Error	0.3	19172		
Sex x Curriculum	2.5	2	9.5	<.01

difference is accounted for by the greater value assigned this category on the part of males (M = 2.71) than females (M = 2.65); while the significant curriculum group differences result from a higher preference on the part of students who had been in an academic curriculum (M = 2.74) than those from a general (M = 2.65) or vocational (M = 2.65) curriculum.

The relatively minor degree of interaction found for sex and curriculum, as shown in Figure 4.3, is seen to be a result of the much sharper contrast

Figure 4.3

"Strong Friendships"
as an Aspirational Outcome--
Sex by Curriculum Interaction



between curriculum groups for females in their preference for this category than is the case for males. Thus, the female academic curriculum graduates (when compared to males) are much stronger than general or vocational graduates in their preference for the "friendships" category.

Looking briefly at the other response categories, we see that being a leader in the community is valued quite lowly, next to the lowest in fact. Fourth from the bottom is "having lots of money," a value which one might expect to be high in our complex technological society. This result, is however, quite consistent with that found by Flanders and Russ-Eft[14] with an older group.

One should be cautious in interpreting these results as valid indicators of respondents' values and aspirations. "Having lots of money," for example, is not a value that is currently regarded as an honorable goal. It is not fashionable to be materialistic, while interpersonal relations ("having strong friendships") are supposed to be valued highly by the new generation. Some haloing of responses should, therefore, be expected. On the other hand, to "correct social or economic inequalities" is fashionable, yet this aspiration did not receive very strong support--it ranked just one level above "having lots of money." We must assume that the values expressed contain both components - real aspirations and some desire to be socially acceptable.

Level of Educational Aspirations (LEA)

The frequency distribution for level of educational aspirations (LEA) (FFQ 12) is shown in Table 4.19 by sex, race and curriculum group.

Table 4.19

Student Level of Educational Aspirations
(% Responses by Subgroup)

Level of Educational Aspirations	Sex		Race		Curriculum		
	M	F	White	Black	Gen.	Academic	Voc.
1. High School Only	14	20	18	11	21	05	32
2. Less than Two Years, Voc. & Trade School	08	15	11	13	16	05	18
3. More than Two Years, Voc. & Trade School	15	11	12	17	17	07	18
4. Two Yrs. College Degree	10	12	11	08	12	9	12
5. Finish Four Year Degree	27	23	25	24	20	34	13
6. Master's Degree	15	14	14	16	09	24	05
7. Ph.D--M.D.	11	06	09	10	05	16	02
	$\chi^2 = 534$		$\chi^2 = 146$		$\chi^2 = 497$		

Chi-squares indicate highly significant differences for mean comparisons within each subgroup, as would be expected with the extremely large sample sizes utilized. Mean values for the frequency distributions indicate that males show a desire to go on to a significantly higher level of education (M = 4.2; or somewhat better than a 2-year college degree) than females (M = 3.7; or somewhat less than a 2-year college degree). Blacks, (M = 4.1) indicate a wish for slightly higher educational levels than whites (M = 3.9), and those who had been in the academic high school curriculum desire a much higher educational level in the form of a 4-year college degree (M = 5.0) than either the general (M = 3.4) or vocational curriculum group members (M = 2.8). It can be noted that these LEA means as well as those for level of educational plans (LEP) and level of vocational plans (LVP), are all significantly lower than those found with the base year Student Questionnaire data--a result that will be examined below in more detail in the section on Decision Change.

Background correlates of level of educational aspiration are presented in Table 4.20 for 17 variables which include family and school

Table 4.20
Correlation of Student Background Characteristics (1972) with 1973 Level of Educational Aspirations*

Student Characteristics (1972)	Level of Educational Aspirations (1973)			
	Sex		Race	
	Males	Females	White	Black
Family Income	23	20	27	18
Father's Education	33	33	35	26
Mother's Education	27	31	31	22
Father's Occupational Level	25	20	25	10
Class Rank	41	35	35	27
Vocabulary	40	37	42	34
Math	43	39	47	35
Father's Education Wish	61	62	64	49
Mother's Education Wish	60	63	64	52
School SES (% Father's Prof.)	21	18	22	12
School Influence (% Go to College)	24	20	25	15
School Pers. Influence (Teachers, Counselors)	28	25	27	23
Avail. School Voc. Courses	22	16	22	10
Level of Educational Aspirations (1972)	61	62	64	51
Level of Educational Plans (1972)	66	67	69	59
Level of Voc. Aspirations (1972)	45	45	43	34
Level of Voc. Plans (1972)	45	44	43	30

---

*Leading decimal not shown.

characteristics, individual ability, and aspirations and plans held at the time of high school senior year. The correlates shown for sex and racial subgroups represent predictive relationships in that the student characteristics were obtained from the SQ in 1972, whereas the LEA variable was obtained in 1973 from the Follow-up Questionnaire.[15] Since the background characteristics are the same ones used for obtaining concurrent relationships in the base year NLS study,[16] comparisons between the two sets of results are of interest.

Clearly the most highly correlated predictors of an LEA criterion, more than one year after high school, are earlier educational desires and plans and parental wishes for future education. Somewhat surprisingly, educational plans held over a year earlier are slightly more valid as predictors of later educational aspirations than are the earlier educational aspirations--which represents still another example of the superior value of the plans measure (probably because of its greater reliability). Next in their degree of relationships are the 1972 vocational aspirations and plans measures which are at roughly the same level as the ability measures of high school class rank, vocabulary and math scores (correlation coefficients in the .30's and .40's). Of the family-SES characteristics, father's educational level is the one that produces the best prediction of later level of educational aspirations.

These major features in the correlational pattern also apply to each of the sexes and the races. There is one striking difference in comparative magnitude of the correlations, however, that consistently can be seen in significantly larger correlations for the white sample in contrast to blacks. The difference will be seen to occur, as well, when the other plans and aspirations measures are used as criteria, and is not entirely a result of differences in variance for either the predictors or the criterion variables.[17]

Comparisons of these predictive relationships between background correlates and level of educational aspirations with those obtained concurrently in the 1972 base-year data reveal considerable overall similarities.[18] One change worth noting is that the ability measures of 1972 resulted in uniformly higher predictive correlations with level of educational aspirations in 1973 for males and females (correlations in mid .30's to low .40's) than they did in concurrent relationships with LEA in 1972 (correlations in the mid .30's). Further, the predictive relationships showed no major differences in magnitude from the earlier concurrent ones for the correlations between educational and vocational decision variables and level of educational aspirations.

Level of Educational Plans (LEP)

The LEP distribution of Table 4.21, in terms of proportion of responses in each category, is generally similar to that of LEA. Again, (from chi-squares) there are highly significant differences found between group distributions by sex, race and curriculum, with the most significant differences occurring between curriculum groups.

The expected lesser mean for level of educational plans, in contrast to level of educational aspirations (in accordance with previous findings), is found for all subgroups--with that difference very uniform in its similarity (a mean difference of .05 for each sex, race and curriculum

Table 4.21

Student Level of Educational Plans
(% Responses by Subgroup)

Level of Educational Plans	Sex		Race		Curriculum		
	M	F	White	Black	Gen.	Academic	Voc.
1. High School Only	22	29	27	19	33	08	46
2. Less than Two Years, Voc. & Trade School	09	14	11	14	15	05	17
3. More than Two Years, Voc. & Trade School	13	09	09	17	13	07	14
4. Two Yrs. College Degree	12	13	12	12	13	12	12
5. Finish Four Year Degree	27	23	26	24	17	40	09
6. Master's Degree	11	09	10	10	06	18	02
7. Ph.D.--M.D.	07	03	05	05	02	09	01
	χ^2 = 497		χ^2 = 189		χ^2 = 5,493		

subgroup). Thus, as is usual, respondents hold significantly lower expectations (plans) than hopes (aspirations) for their educational future. Similar to the findings for level of educational aspirations, blacks hold almost the same expectations (LEP) for achieving a 4-year or postgraduate college degree as whites. The result reflects a potentially profound social change in educational expectations among blacks who tended, in previous decades, to have lower educational expectations than whites.

Using the LEP variable as criterion, the resulting predictive correlations for the background variables (Table 4.22) are highly similar to those obtained with the LEA measure.[19]

Table 4.22

Correlations of Student Background Characteristics(1972) with 1973 Level of Educational Plans*

Student Characteristics (1972)	Level of Educational Plans (1973)			
	Sex		Race	
	Males	Females	White	Black
Family Income	26	24	30	20
Father's Education	35	36	38	27
Mother's Education	30	34	33	23
Father's Occupational Level	26	23	27	12
Class Rank	44	37	37	28
Vocabulary	40	38	42	32
Math	44	41	48	33
Father's Education Wish	60	62	64	48
Mother's Education Wish	60	63	64	51
School SES (% Fath. Prof.)	23	21	23	12
School Influence (% Go to College)	25	22	26	16
School Pers. Influence (Teachers & Counselors)	28	25	27	21
Availability of School Voc. Courses	22	18	22	13
Level of Ed. Aspirations (1972)	63	50	63	35
Level of Ed. Plans (1972)	72	60	72	45
Level of Voc. Aspirations (1972)	44	34	44	32
Level of Voc. Plans (1972)	42	36	42	30

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*Leading decimal not shown.

The 1972 variables of parent's educational wishes and the student's own previous plans and aspirations remain the best predictors of post high school educational plans. Among family characteristics father's education serves as the best single predictor (correlations generally in the mid .30's). Again, as for the finding with level of educational aspiration, school variables (school SES, college-going influence, school personnel influence and available vocational courses) provide the lowest levels of prediction, i.e., correlations not exceeding the mid .20's, especially among members of the black respondent sample. Consonant with previous plans and aspirations comparisons, the background correlates prove to be consistently higher when they are used to predict the educational plans measure than when used to predict the aspirational one.

Level of Vocational Plans (LVP)

The response percentages, for each of 5 status levels of occupation that respondents expect (plan) to be engaged in by age 30 (FFQ 19), are presented in Table 4.23.

Table 4.23

Student Level of Vocational Plans
(% Response by Subgroup)

Level of Vocational Plans (Status Scale)	Sex		Race		Curriculum		
	M	F	White	Black	Gen.	Academic	Voc.
1. Car Washer; Laborer	05	00	02	02	03	01	04
2. Farmer, Service Worker, Homemaker	04	29	18	10	20	09	25
3. Clerical, Crafts, Operatives	30	22	24	32	32	12	41
4. Managers, Technical, Sales	47	41	44	46	39	58	27
5. Professional	14	08	11	09	06	19	02
	χ^2 = 497		χ^2 = 189		χ^2 = 5,493		

Highly significant distribution differences occur between the sexes and the curriculum subgroups, while differences between the races are far smaller (although still statistically significant). The relative similarity of the two racial groups is most clearly marked at the higher occupational levels (i.e., managerial-technical and professional occupations).

In terms of mean values, males (M = 3.6) expect to enter higher status level occupations than females (M = 3.3), blacks (M = 3.5) slightly higher ones than whites (M = 3.4) and academic high school graduates considerably higher occupational levels (M = 3.9) than those from general (M = 3.2) or vocational (M = 3.0) curricula.[20]

Table 4.24 presents the 17 background variables obtained in 1972

Table 4.24

Correlations of Student Background Characteristics (1972) with 1973 Level of Vocational Plans*

Student Background Variables (1972)	Level of Vocational Plans			
	Sex		Race	
	Males	Females	White	Black
Family Income	19	16	22	17
Father's Education	27	24	27	21
Mother's Education	21	24	24	20
Father's Occupational Level	24	14	22	11
Class Rank	32	28	24	24
Vocabulary	32	29	32	28
Math	34	31	38	33
Father's Education Wish	45	47	48	39
Mother's Education Wish	44	47	48	42
School SES	19	14	17	12
School Influence	21	15	20	12
School Personnel Influence	21	19	19	16
Availability of School Voc. Courses	15	11	15	08
Level of Ed. Aspirations (1972)	44	48	47	35
Level of Ed. Plans (1972)	48	52	52	45
Level of Voc. Aspirations (1972)	46	38	39	32
Level of Voc. Plans (1972)	44	39	37	30

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*Leading decimal not shown.

in terms of correlations with the respondents' levels of vocational plans of 1973. As with the findings for educational plans and aspirations, the highest predictive correlations are found for earlier parental educational wishes and the plans and aspirations held at the time of high school senior year (correlations primarily in the .40's). It can be noted that, in terms of relative magnitudes, the ability variables (class rank, vocabulary and math) are much closer to those best predictors for LVP (correlations in the 30's) than was the case when LEA and LEP were used as criteria.

Among the family variables, father's education holds the top rank as predictor, while school variables produce the lowest predictive values overall. The white sample again tends, in virtually all instances, to yield higher predictive correlations than are found for blacks.

Comparison of the pattern of predictive correlations for LVP in Table 4.24, with concurrent relationships for the same variables in the base-year study, indicates that the resulting correlations are extremely similar despite the marked differences in item formats for the LVP measures of 1972 and 1973. Apparently the five-level status scale imposed on the two sets of responses represents a reasonably robust and reliable measure.

Plans for Family Size

The one other form of decision making that can be examined descriptively for the first time with FFQ responses (not having been available in the student questionnaire), is the respondent's plans for the number of children he or she "eventually" expects to have (FFQ 18).

The distribution in Table 4.25 can be summarized very briefly as

Table 4.25

Student Plans for Family Size
(% Responses by Subgroup)

Number of Children	Sex		Race		Curriculum		
	M	F	White	Black	Gen.	Academic	Voc.
None	14	08	11	11	11	11	11
1	05	06	04	11	08	04	06
2	51	50	52	43	50	51	51
3	20	23	22	22	21	22	22
4 or more	10	13	11	12	11	12	11
	$\chi^2 = 176$		$\chi^2 = 216$		$\chi^2 = 113$		

showing no "practical" level of difference between curriculum subgroups on this item, although a statistically significant χ^2 of 113 ($p < .001$) was found. Females are found to be slightly but significantly in favor of larger families than males ($\chi^2 = 176$, $p < .001$) and whites favor somewhat larger families than blacks ($\chi^2 = 216$, $p < .001$).

The finding that blacks, in this instance, seem to be assuming the more customary "middle-class" outlook for smaller families would appear to reinforce the entire constellation of decisions by blacks that have indicated their general similarities with whites in levels of vocational and educational ambitions. Certainly an intent to have smaller families may be seen to represent one of the practical steps toward achieving those ambitions.

4.6 Stability of Plans and Aspirations During the First Year after Graduation

There are two aspects of student decision continuity that are suitable for consideration with the Class of 1972 data. The first involves the extent of change for the same decisions made over time (i.e., with regard to expressed plans and aspirations for one's educational and occupational future). Some evaluation of change on this basis by Hinze[21] was limited expressly to college-going plans of the same students over different time periods. A less direct variation was found in one phase of Berdie and Hood's[22] study of plans of high school seniors, which involved the "inference" of change in the same decision areas but used cross-sectional samples 11 years apart. More common as an approach to studying decision change is one requiring a longitudinal sample that entails analyses of "plans realizability." This is typified by a different phase of the Berdie and Hood study in which the individual's educational or occupational intentions and desires were contrasted with the degree of later fulfillment of those expressed ambitions. As shown in that study, using a one year post high school follow-up sample, the highest proportion of those who fulfilled their plans were the students who had intended to go to college (84%) or get a job (73%) while the lowest levels were found for those who had planned to enter business school (20%).

Class of 1972 data from the base year (1972) and first follow-up (1973) questionnaires allow for consideration of both the extent and direction of decision changes for the same respondents making the same decisions over two time periods, as well as the degree to which they realized their expectations one year after high school. Contrasts in direction and extent of change in plans and aspirations are possible where the decision variables are comparable in item format between the 1972 and 1973 questionnaires (or can be converted to comparable scales despite different formats). Variables for which that can be done are: general aspirations, level of educational aspirations, level of educational plans, and level of vocational plans.[23]

Change in General Aspirations

General aspirations changes can be examined by obtaining different scores between the 3-point scale responses to the comparable items of the Student Questionnaire (SQ 20) and the Followup Questionnaire (FFQ 20). Of primary interest for analyses, are the three dominant aspirational categories that had been identified and analyzed previously for their relative importance (i.e., "good marriage and happy family life"; "success in line of work" and "strong friendships"). The first year changes in each of these perceptions of the respondent's long-term (i.e., "lifetime") ambitions are to be tested for the two sexes, three curriculum groups and two racial groups. Mean changes in scores on "good marriage and happy family life" are shown in Table 4.26.

Table 4.26

Mean Change Scores in the General Aspiration
"Good Marriage and Happy Family Life"

	Sex		Race		Curriculum		
	Male	Female	White	Black	Gen.	Aca.	Voc.
Mean Change	.07	.01	.04	.04	.04	.02	.04

For all groups there are changes in means on this first-ranked lifetime aspiration, an increase in the importance they assign to marriage and family outcomes after they have left high school. When the comparative mean change scores are analyzed over the independent variable the ANOVA summary shown in Table 4.27 results.

Table 4.27

Changes in the General Aspiration
"Good Marriage and Happy Family Life"
ANOVA Results

Source	Mean Square	df	F-ratio	p-value
Sex	5.4	1	17.2	<.01
Curriculum	0.4	2	1.3	
Race	0.2	14,564	0.06	
Error	0.3	2		
Sex x Curric.	0.6	1	1.9	
Sex x Race	1.0	2	3.0	
Curric. x Race	0.2	14,559	0.7	
Error	0.3	2		
Sex x Curric. x Race	1.4	14,557	4.4	
Error	0.3			

The only significant F-ratio (at better than the .01 significance level) is found in the sex main effect. Males who consistently had been shown to attach a lower level of importance to this outcome than females, nevertheless show a significantly greater increase in the value they attach to this aspiration following high school (males mean change = .07; females = .01). The race and curriculum variables do not show any significant effect in their mean changes on the dependent variable, and there are no significant interaction effects.

Mean changes for the three independent variables indicate an overall decline for each of them in the scale value assigned to "success in line of work." An ANOVA produces the F-ratios shown in Table 4.28, which indicate that the only significant mean effect is found for sex (F = 16.8; p < .001). The change is one of greater decline in mean importance of the category for females (M = -.08) than for males (M = -.03).

Table 4.28

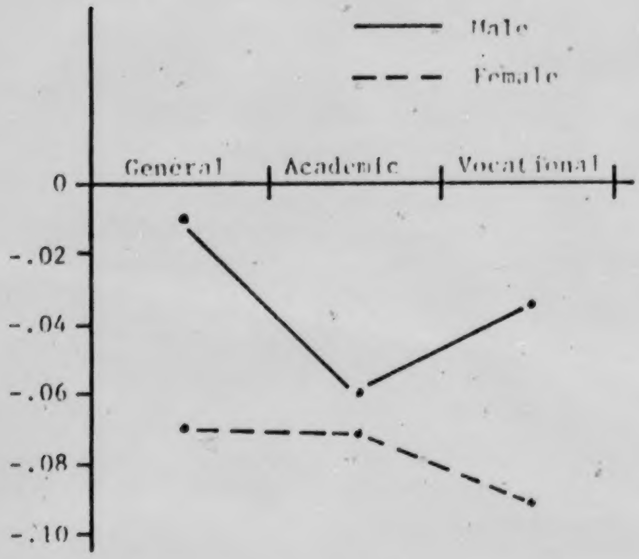
Changes in the General Aspiration
"Success in Line of Work"
ANOVA Results

Source	Mean Square	df	F-ratio	p-value
Sex	4.6	1	16.8	<.01
Curriculum	1.5	2	5.6	
Race	1.3	1	4.9	
Error	0.27	14,678		
Sex x Curric.	2.4	2	8.6	<.01
Sex x Race	0.0	1	0.0	
Curric. x Race	0.4	2	1.3	
Sex x Curric. x Race				
Error	0.27	14,673		

There is also a significant sex by curriculum interaction. Figure 4.4 indicates a substantially greater decline of importance for this aspiration

Figure 4.4

Changes in the General Aspiration,
"Having Strong Friendships,"
Curriculum x Sex Interaction



among academic male high school graduates, in contrast to the other two curriculum subgroups. Among females, however, those of the vocational curriculum group show the greatest comparative decrease in the importance of this future ambition.

As the third-ranked of the lifetime aspirations, scale scores on "having strong friendships" show a pattern of mean declines in importance for all subgroups (Table 4.29). In fact, these represent the largest mean changes in scale value of the three dominant aspiration categories.

Table 4.29

Mean Change Scores in the General Aspiration "Having Strong Friendships"

	Sex		Race		Curriculum		
	Male	Female	White	Black	Gen.	Aca.	Voc.
Mean Change	-.10	-.09	-.07	-.12	-.10	-.08	-.11

The ANOVA summary in Table 4.30 provides the test for the differences in mean decline within the various subgroups and any interaction effects.

The F-ratios resulting from the analysis indicate that none of the main effects or the first- and second-order interactions reach levels of interpretable significance.

Table 4.30

Changes in the General Aspiration
"Having Strong Friendships"
ANOVA Results

Source	Mean Square	df	F-ratio
Sex	0.25	1	0.7
Curriculum	0.48	2	1.4
Race	1.75	1	5.2
Error	0.34	14,645	
Sex x Curric.	0.01	2	0.0
Sex x Race	0.51	1	0.0
Curric. x Race	0.34	2	1.5
Error	0.66	14,640	
Sex x Curric. x Race		2	1.9
Error		14,638	

Change in Level of Educational Aspirations (LEA)

The LEA items of the Student Questionnaire (item 29a) and First Follow-up Questionnaire (item 12) are not identical in response categories and required minor score conversion to comparable five-point scales in order to obtain the difference scores. Change is shown in Table 4.31 in two ways: first, in terms of the proportions of respondents who did, and who did not, change in item response, from SQ to FFQ for each category of the race, sex and curriculum subgroups. The other is in terms of the mean value of LEA change based on a scale from +4 to -4 (which encompassed the complete range of scale change scores found for any of the respondents).

Table 4.31

Mean Changes in Level of
Educational Aspiration

	Sex		Race		Curriculum		
	Male	Female	White	Black	Gen.	Academic	Voc.
% No Change	48.8	43.8	46.8	44.8	39.6	53.1	37.3
% Change	51.2	56.2	53.2	55.2	60.4	46.9	62.7
Mean Change	-0.37	-0.44	-0.43	-0.17	-0.47	-0.33	-0.50

From the proportions of change in LEA shown, there are fairly marked comparative differences between all subgroups, with the largest differentiation between members of the three curriculum groups. The majority of the academic curriculum group are more likely to stay with their original educational aspiration than those of the other two curriculum groups, whose members are much more likely to make a decision change. This, coupled with a similar finding for level of educational plans in the next section, represents confirmation of the finding by Berdie and Hood[24] regarding the greater "stability" of educational choice among those who hope to go on to a college education (i.e., the academic curriculum group).

The means tend to confirm the findings of the dichotomous (Change vs. No Change) distributions, but also make clear that educational aspirations for all subgroups show uniform declines during the first year following high school. More precise information on this aspect of decision change is provided by the ANOVA summary in Table 4.32.

Significant main effects are found for all three independent variables. The most significant mean difference in LEA change occurs for the race variable (as was largely evident from the means tabled above). Whites, thus, shown a larger mean decline in this post high school period than blacks. A similar result was obtained in an independent study which also indicated that whites bring their unrealistically high aspirations in line with reality earlier than blacks do.[25]

Table 4.32 also shows that females show a larger mean decline in educational aspiration than males. This pattern is also consistent with other findings that suggest that women's aspirations tend to be less "realistic"

Table 4.32

Changes in Level of Educational Aspirations - ANOVA Results

Source	Mean Square	df	F-ratio	p-value
Sex	10.7	1	8.0	<.01
Curriculum	26.5	2	19.7	<.01
Race	57.8	1	43.0	<.01
Error	1.3	9,080		
Sex x Curric.	3.2	2	2.3	
Sex x Race	0.0	1	0.0	
Curric. x Race	1.2	2	0.9	
Error	1.3	9,075		
Sex x Curric. x Race	1.2	2	0.9	
Error	1.3	9,073		

than men's in terms of whether they are actualized.[26]

Also from Table 4.32 it is evident that former vocational or general curriculum graduates revised their educational aspirations downward to a greater extent than those of the academic curriculum group. No significant interaction effects were found.

Change in Level of Educational Plans (LEP)

The same scale scoring conversions were required as for the LEA measure; in this case using responses to SQ item 29b and FFQ item 14. Change scores shown in Table 4.33 are presented in the same way as for the educational aspiration variable.

The comparative changes by sex, race and curriculum are similar to those found for LEA, including the general decline in educational expectations. A marked difference, however, is found in the level of change. From the proportions and means shown in the table, it is apparent that LEP produces a

Table 4.33

Mean Changes in Level of Educational Plans

	Sex		Race		Curriculum		
	Male	Female	White	Black	Gen.	Academic	Voc.
% No Change	51.8	53.6	53.8	45.1	47.3	55.0	54.2
% Change	48.2	46.4	46.2	54.9	52.7	45.0	45.8
Mean Change	-0.10	-0.16	-0.14	-0.06	-0.17	-0.11	-0.13

much smaller degree of change over the first post high school year than is the case for LEA. The result reaffirms the greater reliability (as stability) of the educational plans measure.

The ANOVA summary in Table 4.34 indicates that the most significant

Table 4.34

Changes in Level of Educational Plans
ANOVA Results

Source	Mean Square	df	F-ratio	p-value
Sex	11.9	1	10.9	<.01
Curriculum	4.0	2	3.6	
Race	7.4	1	6.8	<.01
Error	1.1	9,680		
Sex x Curric.	1.6	2	1.5	
Sex x Race	7.6	1	7.0	<.01
Curric. x Race	1.0	2	0.9	
Error	1.1	9,675	-	
Sex x Curric. x Race	3.7	2	3.4	
Error	1.1	9,673	-	

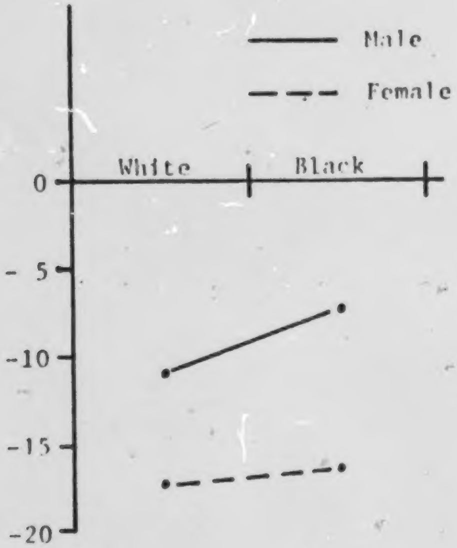
LEP decision change is found between the sexes (females showing more of a decline than males)[27] and between races, (mean decline tending to be greater for whites than blacks) with no significant difference in plans decline when comparing the several curriculum groups.

A significant sex by race interaction effect, shown in Figure 4.5.

Figure 4.5

Changes in Level of Educational Plans

Sex x Race Interaction



indicates that this occurs because of the steeper slope (i.e., greater difference) for the white and black males, such that black males show significantly less LEP decline than white males. Among females the degree of LEP decline is similar regardless of race.

Change in Level of Vocational Plans (LVP)

Measurement of LVP decision change over the one-year period is based on two items of markedly different presentation and response format, requiring that they be equated on a 5-point job status scale. Student Questionnaire item 96 is an open-ended item requesting "work you plan to go into"; FFQ item 19 is closed-ended, containing 16 occupational categories requesting the respondent's job expectation at age 30. Even with conversion to a comparable scale, change scores based on such widely differing stimulus presentations require that results be considered tenuous. Given these limitations, change scores were analyzed as they were for LEP. See Table 4.35.

Table 4.35

Mean Changes in Level of Vocational Plans

	Sex		Race		Curriculum		
	Male	Female	White	Black	Gen.	Academic	Voc.
% No Change	43.2	47.3	45.4	48.0	37.1	53.3	40.3
% Change	56.8	52.7	54.6	52.0	62.9	46.7	59.7
Mean Change	-0.05	-0.51	-0.31	-0.11	-0.22	-0.27	-0.38

The general tendency is for students to change the status level of their occupational intent between high school senior year and the first year after graduation,[28] with the exception of the academic curriculum group (53.3% do not change).[29] This group is apparently not only the most stable in their educational plans (as previously shown) but in their occupational plans as well. As was found for LEA and LEP, the changes are uniformly in the direction of a decline in occupational expectations after high school. Mean values vary widely from a negligible decline for males (M = -.05) to one half of a status category (M = -.51) for females, representing a drastic readjustment on the part of females in the quality of jobs that they feel they can expect to enter.[30]

The ANOVA summary in Table 4.36 reflects these comparative mean changes by indicating a high degree of significance for the difference between males and females (F = 62.6; p < .001); a modest level of significance for the variable of race (F = 8.6; p < .01) and no significant difference across the three curriculum groups.

Table 4.36

Changes in Level of Vocational Plans
ANOVA Results

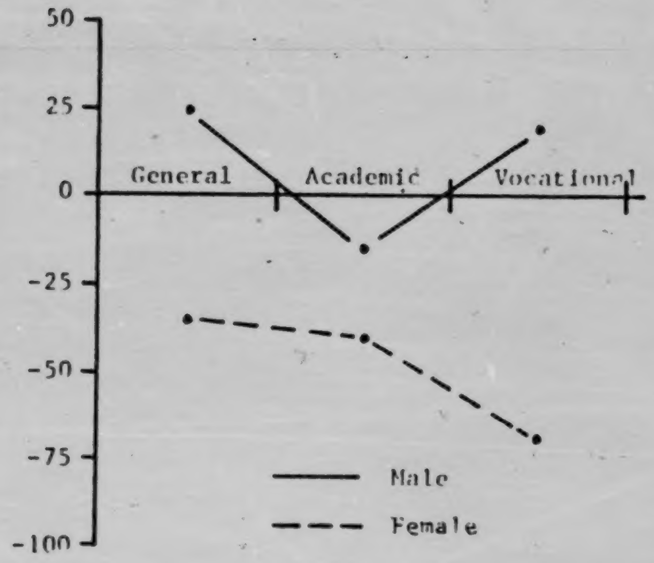
Source	Mean Square	df	F-ratio	p-value
Sex	70.5	1	62.6	<.01
Curriculum	2.4	2	2.1	
Race	9.7	1	8.6	<.01
Error	1.1	1,297		
Sex x Curric.	12.1	2	10.9	<.01
Sex x Race	0.4	1	0.4	
Curric. x Race	1.4	2	1.3	
Error	1.1	1,292		
Sex x Curric. x Race	0.2	2	0.9	

A sex by curriculum interaction (F = 10.9; p < .01) is also found which uncovers some interesting exceptions to the overall findings. As graphed below (Figure 4.6), the interaction shows that males who had been enrolled in vocational or general curricula increased their LVP after high school in contrast to a decline for those from the academic curriculum. Among females, however, the decline in occupational expectations remained the same for general and academic graduates, but declined most drastically for women who had been graduated from the vocational curriculum.

Figure 4.6

Changes in Level of Vocational Plans

Sex x Curriculum Interaction



Relationship of Background Characteristics to Decision Change

In an attempt to define possible influences on decision changes made during the first post high school year, correlations were computed between the change scores and 11 background variables in areas of (a) home and family, (b) ability and (c) school characteristics. These are shown in Table 4.37 for males and Table 4.38 for females,[31] as biserial correlations based on dichotomous scoring of decision change (i.e., no change vs. change, between base year and First Follow-up) for four decision change scores.

A general plans change score was used despite the questionable logic of comparing the general plans items of the base year with those of the First Follow-up.[32]

Table 4.37

Relationship of Background Characteristics to Decision Change Score

(Biserial Correlations)

Males (N ≈ 5,000)

Background Variable	Change Scores (1973 minus 1972)			
	General Plans	Educ. Aspirations	Educ. Plans	Voc. Plans
Family Income	-.09	-.10	-.04	-.09
Father's Educ.	-.08	-.09	-.05	-.07
Father's Occup.	-.07	-.06	-.05	-.06
Mother's Educ.	-.08	-.10	-.04	-.07
Class Rank	-.11	-.16	-.11	-.09
Vocabulary	-.09	-.15	-.08	-.05
Math	-.09	-.16	-.10	-.02
Father's Educ. Wish	-.10	-.10	-.05	-.11
Mother's Educ. Wish	-.10	-.10	-.05	-.11
School SES	-.06	-.06	-.03	.00
% Go to College	-.04	-.04	-.04	.00

Table 4.38

Relationship of Background Characteristics to Decision Change Scores (Biserial Correlations)

Females (N ≈ 6,000)

Background Variable	Change Scores (1973 minus 1972)			
	General Plans	Educ. Aspirations	Educ. Plans	Voc. Plans
Family Income	-.07	-.08	-.01	-.02
Father's Educ.	-.12	-.11	-.01	-.13
Father's Occup.	-.08	-.07	-.01	-.06
Mother's Educ.	-.09	-.12	-.02	-.11
Class Rank	-.08	-.13	-.03	-.08
Vocabulary	-.09	-.15	-.02	-.12
Math	-.11	-.16	-.04	-.12
Father's Educ. Wish	-.12	-.11	-.09	-.20
Mother's Educ. Wish	-.14	-.12	-.10	-.19
School SES	-.08	-.08	-.01	-.02
% Go to College	-.07	-.07	-.01	-.01

For the correlations with either sex it is evident that, while most achieve statistical levels of significance, few reach any levels considered practical for interpretation as useful predictors. Especially notable, however, is that almost all correlations are negative in value, indicating the "appropriateness" of direction for interpretative purposes. That is, people from higher SES families,[33] of higher ability,[34] receiving more parental encouragement, and from higher SES schools are those who tend to change their decisions least (i.e., are most stable) between high school senior year and the first year out of school. The only correlations within each table that reach a level worth comment, are the student ability variables. Thus, class rank, vocabulary, and math scores are the only background variables that reach correlations in the teens (correlations range from -.13 to -.16) for both sexes.[35]

As a somewhat different approach to the value of the decision change variables, it is also possible to pose the question of whether they are potentially predictive of actual changes in educational and occupational choices made following high school. Table 4.39 shows the correlations of change scores for general plans, LEA, LEP and LVP with six reported post high school changes (or intended changes) in areas of schooling, borrowing of money, field of study and employment.[36]

Expressed changes in general plans and educational plans or aspirations over the course of the first year can be seen to have a bearing on two forms of decision change: (1) school change and (2) withdrawal from some form of training prior to completion (correlations ranging from .15 to .24). In addition, a change in vocational plans does (sensibly) show a significant relation to the student's actual change in his field of study (r = .20). Thus, in select ways, those who report changes in their future goals or desires tend to make changes in actuality--and primarily in regard to educational changes.

Table 4.39

Relationship of Decision Change to Educational and Vocational Changes Following High School

Males (N = 3,000)

Decision Change (No/Yes)	Borrowing Plans	School Change	Field of Study	Training Withdrawal	Employer Change	Job Change
General Plans	-.02	.24	.03	.24	.07	.07
Level of Ed. Aspir.	.01	.17	.03	.22	-.04	-.05
Level of Ed. Plans	-.03	.15	.06	.15	-.02	-.01
Level of Voc. Plans	.07	.00	.20	-.07	-.03	-.06

Plans Realization

The extent to which anticipated objectives or general plans at the time of high school senior year (SQ item 31) are realized during the year after graduation (FFQ item 1) can be determined by contrasting the response differences for the two items after they have been equated on a similar five-point scale, although having markedly different formats.[37] Proportion of change and mean change between expectation and post high school activity are presented in Table 4.40 for the sex, race and curriculum subgroups.

Table 4.40

Change Scores Between Expectation and Post High School Activity

	Sex		Race		Curriculum		
	Male	Female	White	Black	Gen.	Academic	Voc.
% No Change	71.9	66.1	70.7	57.7	62.0	74.8	66.6
% Change	28.1	33.9	29.3	42.3	38.0	25.2	33.4
Mean Change	-0.23	-0.33	-0.28	-0.33	-0.32	-0.28	-0.24

For all of the six subgroups there is a distinct likelihood that the respondents will be doing, to at least some degree, what they had planned to do as high school seniors (i.e., about 60% to 70% carry out the activity they had intended the year before). In terms of subgroup contrasts, one of the sharpest differences in proportion of students who match their plans to later activity is found for race, with a much higher proportion of whites than blacks likely to meet their expectations (i.e., 71% vs. 58%).[38] From the mean changes shown, it is clear that where plans are not realized, the post high school activity is most likely to be at lower "status" level (that scale ranging from a low of: "lay-off from work or not working" to a high of taking "academic courses at a two-or four-year college").

The ANOVA summary in Table 4.41 indicates that for the mean differences, the most significant contrast is between the sexes ($F = 49.9$; $p < .001$), with curriculum differences also significant at better than the .01 level ($F = 10.2$). There is also a significant sex by race interaction ($F = 7.9$).

Thus, females fall below their first year intended activity ($M = -.33$) to a greater degree than males ($M = -.23$), and vocational curriculum students ($M = -.24$) show the least discrepancy among the curriculum groups in being able to match high school expectation to actual activity during the first year out of school.

Table 4.41

ANOVA Plans Realization

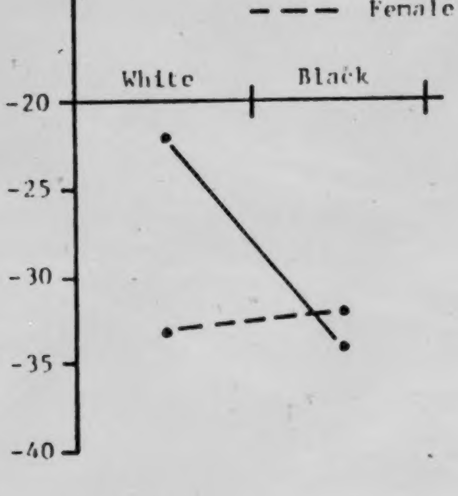
Source	Mean Square	df	F-ratio	p-value
Sex	30.1	1	49.9	<.01
Curriculum	7.0	2	10.2	<.01
Race	2.4	1	3.5	
Error	0.7	12,569		
Sex x Curric.	0.5	2	0.7	
Sex x Race	5.4	1	7.9	<.01
Curric. x Race	0.8	2	1.1	
Error	0.7	12,564		
Sex x Curric. x Race	2.0	2	3.0	
Error	0.7	12,562		

The sex by race interaction, as graphed in Figure 4.7, indicates that the primary basis for differences found between whites and blacks in achieving post high school plans stems from the much greater discrepancy in plans realization on the part of black males, while little difference can be attributable to females in that regard.

Figure 4.7

Plans Realization

Sex x Race Interaction



4.7 Dimensions of Postsecondary Activities

In order to determine the impact of decisions made in high school on subsequent post high school performance it is essential that such performance be defined in terms of the most coherent and relevant clusters of criteria, or outcome, variables subsumed under meaningful constructs. The alternative, as in most longitudinal studies, is to have numerous individual measures with a large number of predictive correlates to be interpreted. Little knowledge is provided, in the resulting maze of coefficients, for determining the relative importance of these performance criterion variables or in setting priorities for their choice and utilization in subsequent follow-up study questionnaires. An empirical and parsimonious approach to the problem of criterion definition is to determine major independent clusters or dimensions of post high school student achievements based on the specific outcome variables available in the First Followup Questionnaire.[39]

On an a priori basis, it is sensible to consider for such an analysis two major areas of post high school performance: one being educational activities; and the other, occupational or job-related activities. By factor analyzing each set of criterion variables it is possible to identify the major underlying outcome dimensions and to specify the "best" of the individual variables based on their factor loadings or contribution to the dimensions. This dimensional approach helps to describe what happened to various student subgroups following high school in terms of the most meaningful behavior patterns.

Educational Outcome Dimensions

Correlation matrices were computed using 22 educational variables available from the FFQ along with five demographic variables (sex, race, marital status, number of dependents and total 1973 income).[40] The 27 x 27 matrices, obtained for each of the three high school curriculum subgroups, were analyzed by a principal components solution with subsequent Varimax rotation.[41]

Interpretable factors and variables with loadings of sufficient magnitude to justify incorporation in each factor (i.e., .30 or greater) are presented for those students who were formerly enrolled in the high school general curriculum (Table 4.42), the academic curriculum (Table 4.43) and the vocational curriculum (Table 4.44). Along with each set of rotated loadings is shown the total variance accounted for by the factor as an indication of factor dominance.

Although there are differing numbers of interpretable factors obtained from the matrices for each curriculum group, several are similar enough in loading patterns to warrant the same designations. The dominant such factor across all three matrices is the one that depicts Educational Ambition (Factor I), with major loadings defining the respondent who has higher post high school educational plans and aspirations, who attended school since high school, was enrolled in classes in October 1973 and was more likely to be enrolled in the same postsecondary school as in 1972. Additionally his expectations for the coming year (1974) were for a higher status level activity accompanied by a greater willingness to borrow in order to achieve educational goals. For vocational curriculum group members that willingness is also associated with a greater likelihood to spend more for educational purposes and to seek out financial aid.

Table 4.42

Rotated Factor Loadings for Educational Criterion Dimensions
(General Curriculum Group)

Factor I
Educational Ambition

Follow-up Variable	Loadings
Attend School (0/1)	.57
Classes (Oct. 1972)	.35
Same School 1972 & 73	.60
Level of Ed. Aspir.	.65
Amount Willing to Borrow	.41
Level of Ed. Plans	.73
Classes Oct. 1973	.74
Expect to Be Doing 1974	.61
Marital Status (0/1)	.38

Factor Variance = 3.3

Factor II
Level of Educational Choice

Follow-up Variable	Loadings
School Level 1973	-.52
School Level 1972	-.40
Level of Ed. Plans	-.29
Class Hrs./Wk. 1973	.76
Class Hrs./Wk. 1972	.70
Expect to Be Doing 1974	-.30

Factor Variance = 1.9

Factor III
Financial Commitment

Follow-up Variable	Loadings
Level of School '73	.54
Amt. Financial Aid Offered	.49
Level Ed. Aspir.	.36
Amt. Willing to Borrow	.37
Level Ed. Plans	.47
1st Year Expenses	.56

Factor Variance = 1.7

Factor IV
Persistence

Follow-up Variable	Loadings
Same School (0/1)	-.41
Level of School	.42
Semester Hrs. (1st Year)	-.31
Course Change	.75
Grades (1st year)	.33
Classes Oct. 1973	-.29

Factor Variance = 1.4

Factor V
School Involvement

Follow-up Variable	Loadings
Level of School 1973	.34
Classes Oct. 1972	.40
No. Semester Hrs. (1st Year)	.44
Total Income 1973	-.57
Sex	.45

Factor Variance = 1.4

Table 4.43

Rotated Factor Loadings For Educational Criterion Dimensions (Academic Curriculum Group)

Factor I
Educational Ambition

Follow-up Variable	Loadings
Attend School	.70
Classes (Oct. 1972)	.46
Same School	.32
Level Ed. Aspir.	.69
Amt. Willing to Borrow	.33
Level Ed. Plans	.70
Classes Oct. 1973	.50
Expect to Be Doing	.61
Marital Status (0/1)	.41
Total Income 1973	-.48

Factor Variance = 3.2

Factor II
Educational Commitment

Follow-up Variable	Loadings
School Level 1973	.57
School Level 1972	.40
Amt. Financial Aid	.41
Level Ed. Aspir.	.58
Amt. Willing to Borrow	.37
Level Ed. Plans	.61
1st Year Expenses	.58
Expect to Be Doing 1974	.41

Factor Variance = 2.1

Factor III
School Persistence

Follow-up Variable	Loadings
Same School, 1972-73	.65
No. Semester Hrs.	.33
Classes 1973 (No/Yes)	.53
Course Change	-.80

Factor Variance = 1.8

Table 4.44

Rotated Factor Loadings for Educational Criterion Dimensions
(Vocational Curriculum Group)

Factor I
Educational Ambition

Follow-up Variable	Loadings
Attend School (0/1)	.34
School Level 1973	.49
Classes (Oct. 1972)	.32
Level of School 1972	.33
Amt. Financial Aid	.41
Level Ed. Aspir.	.72
Willingness to Borrow	.62
Level Ed. Plans	.77
1st Year Expenses	.45
Expect to Be Doing	.54

Factor Variance = 3.1

Factor II
Persistence

Follow-up Variable	Loadings
Attend School (0/1)	.34
Same School 1972-'73	.80
Level Ed. Aspir.	.33
Level Ed. Plans	.39
Classes 1973	.85
Expect to Be Doing	.35
Marital Status	-.30

Factor Variance = 2.3

Factor III
School Involvement

Follow-up Variable	Loadings
School Level 1973	-.48
School Level 1972	-.37
No. Semester Hrs. (1st Yr.)	.33
No. Class Hrs./Wk. 1973	.70
No. Class Hrs./Wk. 1972	.68

Factor Variance = 2.0

Factor IV
Aborted School Attempt

Follow-up Variable	Loadings
Attend School (0/1)	.33
School Level 1972	.57
Amt. Financial Aid	-.30
Withdrawal Prior to Comp.	.70
Grades 1st Yr.	.41

Factor Variance = 1.7

A second educational criterion dimension of reasonable similarity across the three curriculum groups (though less so than Factor I) is designated as School Persistence. Shown as Factor IV for the general curriculum group and Factor III for the academic group, it is defined predominantly by the post high school outcomes of remaining enrolled in the same school between 1972 and 1973, of having remained in the same course of study, of taking more semester hours during the first year, and of continuing to take classes in October 1973.

For the vocational curriculum group, this Persistence factor (Factor II) is seen to have several features that differ in its loadings pattern when contrasted with the other curriculum groups (e.g., minor loadings on level of educational aspirations and level of educational plans). However, it retains the same underlying interpretation, with its lead loadings on taking classes in October of 1973 and on attending the same school in 1973 as in 1972.

The remaining educational criterion factors prove to be generally more distinctive for each curriculum subgroup. For those who had been in the general curriculum, there are three such factors. One is designated as Level of Educational Choice, (Factor II) depicting the general student who was in a higher level postsecondary type of schooling in 1972 and in 1973 and spent fewer hours in classes during those periods (i.e., a reflection of the fewer hours generally spent in class by a 2- or 4-year college student than by a trade school student). Another is a Financial Commitment factor (Factor III) that is readily interpretable in its description of the individual who had higher first year educational expenses, was offered more financial aid, and was willing to borrow more for his education. Logically, the dimension is also seen to incorporate the variables of attendance at a higher level institution in 1973 and higher levels of educational plans and aspirations on the part of the respondent.

The fifth factor for the general curriculum group is designated as School Involvement (Factor V) based on a cluster of outcomes for the individual who is more likely to be a female, who enrolled in courses soon after high school (i.e., in October 1972), has taken more semester hours during the first year after graduation and is in a higher level of post-secondary training. Along with (and probably because of) the greater educational involvement, there is a tendency to earn less income in 1973.

For those who had been enrolled in the high school academic curriculum, the third--and remaining--criterion factor for discussion is one that combines variables of financial commitment and level of educational involvement (found to produce orthogonal dimensions for the general curriculum group) into a single broader dimension designated as Educational Commitment (Factor II). This dimension depicts outcome performance of the former academic curriculum student in terms of going on to a higher level of educational involvement, making a larger financial commitment to education (i.e., financial aid sought, willingness to borrow, first year educational expenses) and foreseeing higher levels of future educational endeavor in the form of plans, aspirations and short-term anticipated activities (i.e., for 1974).

Of the two remaining factors found for the vocational curriculum group, in addition to the Educational Ambition and Persistence factors previously discussed, one is a factor best designated as School Involvement (Factor III).

It is similar to the relatively minor factor of the same designation for the general curriculum group, as seen in its same positive loadings on taking more class hours per week and more hours over the first year after high school. For the vocational curriculum group, however, there is a clear tendency for these with a greater degree of involvement, to have been enrolled in "lower level" schools. As noted previously, it is the trade and technical schools, which vocational students are more likely to attend, that require more hours of class work--e.g., shops and demonstration courses--than do colleges and universities.

The remaining factor of Aborted School Attempt (Factor IV) appears exclusively for the vocational curriculum group. It depicts the vocational student who, although he had been motivated to attend school during the first year after high school, was likely to withdraw prior to completing a program of study and to do so at a school of higher educational level and one in which he achieved higher grades. Interestingly there was a slight tendency for these criterion behaviors to be associated with offers of smaller amounts of financial aid--a fact that may help explain the reason for withdrawal from school.

Vocational Outcome Dimensions

Using 29 occupational criterion variables plus the four demographic measures of marital status, sex, race and number of dependents, 33 x 33 correlation matrices for each of the three high school curriculum subgroups were computed. Each matrix was factor analyzed in the same way as for the educational criterion variables (i.e., principal components solution with Varimax rotation). The loadings for the interpretable factors are presented in Tables 4.45, 4.46 and 4.47.

Table 4.45

Rotated Factor Loading for Occupational Criterion Dimensions (General Curriculum Group)

Factor I
Amount of Work & Earnings

Follow-up Variable	Loadings
Hrs. Worked/Wk. 1973	.67
Amt. Earned/Wk. 1973	.74
Hrs. Worked/Wk. 1972	.68
Amt. Earned/Wk. 1972	.67
Expect to Be Doing	-.42
Total Income 1973	.55

Factor Variance = 3.0

Factor II
Steady Employment

Follow-up Variable	Loadings
Hold Job 1973	.66
Hold Job 1972	.66
Sought Work 1972	.37
Weeks Worked 1972	.74
No. Jobs Held	.44
No. Job Sources Used	.36
Total Income 1973	.39

Factor Variance = 2.4

Factor III
Job Adjustment

Follow-up Variable	Loadings
Expect Some Employer 1974	.62
Expect Some Job 1974	.64
Use Training on Job	.30
Relevance of H.S. Training to Job	.32
Job Status Level 1973	.34
Job Satisfaction	.49

Factor Variance = 2.2

Factor IV
Unsuccessful Job Seeking

Follow-up Variable	Loadings
Reasons Not Working (No/Yes) 1973	.44
No. Rel. Reasons 1973	.66
Look for Work 1973	.32
Reasons Not Working 1972	.50
No. Rel. Reasons 1972	.75
Sought Work 1972	.45
Amt. Earned 1972	-.39

Factor Variance = 2.3

Table 4.46

Rotated Factor Loadings For Occupational Criterion Dimensions (Academic Curriculum Group)

Factor I
Amount of Work and Earnings

Follow-up Variable	Loadings
Level of Voc. Plans	-.35
Hrs. Worked/Wk. 1973	.81
Amt. Earned/Wk. 1973	.82
Hrs. Worked/Wk. 1972	.72
Amt. Earned/Wk. 1972	.74
Expect to Be Doing	-.49
Marital Status	.32
Total Income 1973	.68

Factor Variance = 3.7

Factor II
Steady Employment

Follow-up Variable	Loadings
Hold Job 1973 (0/1)	.65
Reason Not Working (Rel./Irrel.)	-.35
Held Job 1972	.69
Reason Not Working 1972	-.29
No. Weeks Worked 1972-73	.76
No. Jobs Held 1972-73	.38
Total Income 1973	.39

Factor Variance = 2.4

Factor III
Job Adjustment

Follow-up Variable	Loadings
Expect Some Employer 1974	.69
Expect Some Job 1974	.75
Use Training on Job	.30
Job Level 1973	.32
Job Satisfaction	.52

Factor Variance = 2.1

Factor IV
Unsuccessful Job Seeking

Follow-up Variable	Loadings
No. Reasons Not Work 1973	.72
Sought Work 1973	.58
No. Reasons Not Work 1972	.71
Sought Work 1972	.62

Factor Variance = 2.4

Table 4.47

Rotated Factor Loadings For
Occupational Criterion Dimensions
(Vocational Curriculum Group)

Factor I
Amount of Work & Earnings

Follow-up Variable	Loadings
Job Status Level	-.33
Hrs. Worked/Wk. 1973	.72
Amt. Earned/Wk. 1973	.77
Hrs. Worked/Wk. 1972	.53
Total Income 1973	.53
Sex	-.55

Factor Variance = 2.5

Factor II
Steady Employment

Follow-up Variable	Loadings
Hold Job 1973	.75
Held Job 1972	.72
No. Weeks Worked	.73
No. Jobs Held	.30
Sought Work 1972	.45
Total Income 1973	.46

Factor Variance = 2.5

Factor III
Job Adjustment

Follow-up Variable	Loadings
Reason Not Working 1973 (Irrel./Rel.)	-.36
No. Rel. Reasons 1973	-.45
Sought Work 1973	-.40
Expect Some Empl. 1974	.67
Expect Some Job 1974	.81
Training Rel. (0/1)	.32
Job Status Level	.31
Job Satisfaction	.55

Factor Variance = 2.6

Factor IV
Unsuccessful Job Seeking

Follow-up Variable	Loadings
Reason Not Working 1973	.46
No. Rel. Reasons 1973	.57
Reason Not Working 1972	.76
No. Rel. Reasons 1972	.87
Sought Work 1972	.39
Hrs. Worked/Wk. 1972	-.31

Factor Variance = 2.3

Four interpretable occupational criterion dimensions were obtained for each curriculum group. These display generally greater similarities in designation and loading patterns than were found for the educational dimensions. There is a relatively dominant occupational criterion of Amount of Work and Earnings (Factor I for each curriculum group) that defines post high school performance in the form of working more hours and earning more income in 1972 and 1973. Among those formerly enrolled as general and academic curriculum students, the loading pattern also contains the expectation of doing something of lesser educational level in the ensuing year 1974 and is further reinforced among the academic group by a lower level of vocational plans. Among the vocational curriculum group members, the factor is also marked by a tendency of those who work and earn more during the first year after high school to be the ones who enter jobs of lower status levels and to be males.

Another criterion factor of considerable similarity across the curriculum groups is the one designated as Steady Employment (Factor II). It is readily definable from the primary loadings on working in 1972 and 1973, working more hours or weeks during those periods, earning more, and having made an effort to seek work in 1972.

Almost equally similar across the groups is the Job Adjustment factor (Factor III) with common variables defining the post high school respondent who expects to remain on the same job and with the same employer in the following year, indicates a greater degree of job satisfaction, has positive feelings about the relevance of high school training for his job, and is somewhat more likely to hold a higher status job.

The final occupational criterion factor, which is not quite as similar across the curriculum groups as the other three, appears to define Unsuccessful Job Seeking (Factor IV). The clearest interpretation of the factor is found for the general and vocational curriculum groups for whom it is composed of: more relevant reasons given for not working (1972 and 1973), having made a greater effort to seek work, as well as the logical correlate of either earning less (in the case of the general curriculum group) or having worked fewer hours (in the case of the vocational curriculum group).

4.8 High School Decisions as Predictors of Performance along Five Educational and Four Occupational Dimensions

Given empirically defined criterion factors for the first post high school year, it becomes feasible to examine the extent to which decisions (i.e., plans and aspirations) in the high school senior year serve as valid predictors of those performance outcome dimensions. Results for such predictive relationships are considered separately, below, for educational and occupational outcome dimensions.

Prediction of Educational Performance Outcomes

Twelve decision variables used as predictors are shown in Tables 4.48, 4.49 and 4.50 for the general, academic and vocational curriculum subgroups, respectively. These measures, obtained from the Student Questionnaire at the time the respondent was a high school senior, range from the student's perceptions of his own future plans and aspirations to those of his peers and parents.[42] The correlations shown represent the relationship of each decision predictor variable to the total factor--

as derived by extension of the variable on that factor. The technique is analogous to one in which factor scores would be computed and each variable correlated with the score for each factor, and it is similarly interpretable.

From the pattern of correlations shown in these tables it is evident that the dominant factor of "Educational Ambition" is the one for which the decision variables are most predictive across all three curriculum groups. For those who had been enrolled in the general curriculum (Table 4.48) the Ambition factor, which represents the cluster composed of the broadest range of educational "success" outcomes, is predictable at moderate levels (correlations in the low to high .40's) by the student's educational and general plans and aspirations as a high school senior. Almost equally effective as predictors, are the student's reports of the educational expectations of his parents (r's = .42), while high school vocational plans and aspirations are somewhat lower in relation to this post high school educational dimension.

Table 4.48

Predictive Relationships of High School Decision Variables (1972) with Educational Outcome Dimensions*

(General Curriculum Group)

Student Questionnaire Decision Variable	Educational Outcome Dimensions I Educ. Ambition	 II Level of Educ. Choice	 III Financial Commitment	 IV School Persistence	 V School Involvement
Level of Ed. Aspir.	.41		.30		
Level of Ed. Plans	.48	.24	.41	.23	.20
Level of Voc. Plans	.34				
Level of Voc. Aspir.	.26				.31
Peer Ed. Plans	.26				.21
Early Ed. Decision	-.28		-.22		-.22
General Plans	.47		.21	.25	.32
General Aspir.	.41	.25		.21	.29
Father's Ed. Expect.	.42	.28	.26	.25	
Mother's Ed. Expect.	.42		.29	.25	
Level Voc. Plans & Aspir.			.20		
Level Ed. Plans & Aspir.					

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*Correlations less than |.20| not shown.

Table 4.49

Predictive Relationships of High School Decision Variables (1972) with Educational Outcome Dimensions*

(Academic Curriculum Group)

	Educational Outcome Dimensions	
	I	II
Student Questionnaire Decision Variable	Educ. Ambition	Educ. Commitment
Level of Ed. Aspir.	.45	.43
Level of Ed. Plans	.53	.50
Level of Voc. Plans	.41	.22
Level of Voc. Aspir.	.28	
Peer Ed. Plans	.25	
Early Ed. Decision	-.47	-.25
General Plans	.60	
General Aspir.	.48	
Father's Ed. Expect.	.40	.42
Mother's Ed. Expect.	.40	.46
Level Voc. Plans & Aspir.		
Level Ed. Plans & Aspir.		

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*Correlations less than |.20| not shown. No significant predictive correlates were found with Factor III: School Persistence.

Table 4.50

Predictive Relationships of High School Decision Variables (1972) with Educational Outcome Dimensions*

(Vocational Curriculum)

Student Questionnaire Decision Variable	Educational Outcome Dimensions I Educ. Ambition	II Educ. Persistence	III School Involvement	IV Aborted School Attempt
Level of Ed. Aspir.	.40			.25
Level of Ed. Plans	.49	.29		.34
Level of Voc. Plans	.31			
Level. of Voc. Aspir.	.26			
Peer Ed. Plans	.20			
Early Ed. Decision				
General Plans	.39	.28		.32
General Aspir.	.39	.22		.26
Father's Ed. Expect.	.38			.36
Mother's Ed. Expect.	.43			.34
Level Voc. Plans & Aspir.			.22	
Level Ed. Plans & Aspir.				

---

*Correlations less than |.20| not shown.

It can be noted in this pattern that the plans variables (educational, vocational and general) are all uniformly higher in their relationships to the criterion factor than are the aspirational ones. The result is in conformity with the consistent findings of the superior value of plans measures previously shown for concurrent relationships with base year data[43] as well as in other studies.[44]

Educational plans of peers (as reported by the respondent) also show a modest level of positive prediction for the post high school Ambition factor, as does the early education decision variable. The negative correlation shown for the latter indicates that those students who arrived at their educational decisions earlier in life were the ones more likely to score high on this educational outcome dimension than those who made their decisions at later stages.

Both in number and magnitude of relationships, the correlations of the high school decision variables with the four remaining educational criterion factors for the general curriculum group are appreciably smaller and more scattered. The best predictive correlates of the Financial Commitment dimension are level of educational plans and aspirations with parental educational expectations; these demonstrate some modest predictive value. For the first and only time, the difference score between plans and aspirations (in this instance for vocational plans and aspirations) shows a significant relationship to a criterion factor. Intended as a score reflecting the respondent's "reality" level, the relationship provides a minor indication that those whose aspirations are more divergent from, and much higher than, their plans (i.e., a larger LVA-LVP difference) are more likely to make a larger financial commitment to education.[45]

Overall, for the general curriculum group, the most predictively valid measure of one year post high school educational efforts or achievements (as defined by the five criterion dimensions is unquestionably the student's expression of educational plans in the high school senior year. His perceptions of parental expectations for future education run a respectable second as valid indices having significant correlations with 4 of the 5 criterion factors.

It is for students who had graduated from an academic high school curriculum that the senior year decision variables show the strongest correlations with the Educational Ambition factor. The educational plans and general plans and aspirations variables are seen in Table 4.49 to range from correlations in the mid .40's to a high of .60. Notably, the early education decision variable shows a much stronger predictive capability for academic students than it does for those from a general curriculum. Evidently, the variable plays a more important role among academic students who expect to accomplish their educational goals. Again, as for the general group, the plans variables are seen to be consistently more valid predictors of educational outcomes than the aspirational ones.

The outcome dimension of Financial Commitment shows moderately good predictability from the student's educational plans and aspirations in high school as well as from parental educational expectations at that same time. Since there were no significant correlates with the relatively minor Educational Persistence factor, these values are not shown in Table 4.49 (correlations all less than .20).

The pattern of predictive relationships for the vocational curriculum group (Table 4.50) is consistent with that found for the other curriculum groups. One exception is the lack of any significant level of relationship for the early education decision variable on this (or any other) criterion factor. The Aborted School Attempt dimension is the only other one of the four dimensions for which the plans and aspirations produce consistent predictive value. In effect, these high school decision variables are modestly related to later postsecondary educational attempts by vocational students--albeit aborted ones. Only very minor and scattered prediction is shown for the two remaining factors of Educational Persistence or School Involvement.

Again, the most valid single index of postsecondary educational outcomes remains (for this group as it did for the other curriculum groups) the level of educational plans expressed by the student at the time he is a high school senior.

Prediction of Occupational Performance Outcomes

Correlations were computed between the 12 decision variables obtained during the senior year of high school and the four post high school occupational criterion dimensions derived for each curriculum group. Correlations in more than chance numbers and at levels of practical significance occurred in the three curriculum groups for only one of these occupational dimensions--Amount of Work and Earnings--which was the dominant factor extracted for each curriculum group. Therefore, correlations are shown in Table 4.51 only between the 12 predictors and that dimension.

Table 4.51

Predictive Relationships of High School Decision Variables (1972) with Vocational Outcome Dimension of "Amount of Work and Earnings"*

Student Questionnaire Variable	Curriculum Group		
	General	Academic	Vocational
Level of Ed. Aspirations	-.32	-.37	
Level of Ed. Plans	-.41	-.44	-.25
Level of Voc. Plans	-.24	-.32	-.26
Level of Voc. Aspirations	-.37	-.29	-.29
Level of Peer Ed. Plans	-.27	-.23	
Early School Decision	.26	.43	
General Plans	-.40	-.49	-.27
General Aspirations	-.35	-.41	-.24
Father's Educ. Expect.	-.33	-.33	-.22
Mother's Educ. Expect.	-.30	-.32	
Level of Voc. Plans & Aspir.			
Level of Ed. Plans & Aspir.			

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*Correlations less than |.20| not shown.

Of the 12 decision variables, most have some degree of predictive value for the "Amount of Work and Earnings" outcome dimension--especially so for the general and academic curriculum groups. The aspirations-plans discrepancy ("reality") scores, however, show no predictive value for this dimension. The most striking aspect of the correlations is that they are all uniformly negative in direction (and/or interpretation). Those students who, along with their peers and parents, had held lower levels of future goals or desires, were the ones most likely to go on to work more and earn more during the first year out of high school. They are also the ones who tended to have arrived at their postsecondary educational decisions at older age levels as indicated by positive correlation with age at the time of school decision.

The pattern and direction of relationships is reasonable because it reflects the fact that those former students who possess ambitions for higher levels of education and higher status occupations match these ambitions with appropriate behavior right after high school--i.e., entry into more extensive formal postsecondary educational programs. Those with lower level goals are more likely to go on to work full time with the obvious opportunity to work more and earn more by doing so. In essence, working and earning or any cluster of occupational "successes" during this initial post high school period (i.e., as short-term outcomes), when a large proportion of individuals do not go on to full-time employment, have a relatively unique and restricted meaning in their use as criteria. Their value as longer-term measures of performance, however, are likely to become clearer only after postsecondary training has been completed and most of the former students have settled down to full-time jobs, at which time changes in direction and magnitude of predictive relationships are likely to be evident and more useful.

4.9 Short-Term (1972) Criteria

A determination of the independent criterion dimensions for the post high school period is one approach to defining the most relevant and useful variables and scales that can serve as measures of performance outcome during that initial year. The present data, however, also permit one other approach in helping to define relevant criterion variables, specifically by identifying the most useful short-term performance outcomes immediately after high school (i.e., October 1972) based on their predictive relationships to longer-term (i.e., 1973) performance outcomes. This permits a defensible definition of short-term "success" on the basis of the relative predictive value of these various educational and vocational criteria obtained right after high school graduation.

Correlations between the short-term (October 1972) outcomes of the First Follow-up Questionnaire and the available longer-term (1973) outcomes from that same questionnaire were used to identify those educational and vocational variables having the greatest number of correlations of "practical" as well as statistical significance (arbitrarily defined as $r = .20$ or greater).

Results shown are for the total NLS sample (Tables 4.52 and 4.53).

Table 4.52

Predictive Value (Relevance) of Best 1972 Short-Term Educational Criterion (School Attendance in 1972)

Follow-up Questionnaire Longer-Term Criterion	Correlation with "School Attendance" in 1972
Level of Voc. Plans (1973)	.25
Level of School Attended (1973)	.28
Attend Same School '73 (0 or 1)	.20
No. Semester Hrs. (since high school)	.39
Level of Educ. Aspir. (1973)	.39
Willing to Borrow for Educ. (1973)	.21
Level of Educ. Plans (1973)	.42
Attend School '73 (0 or 1)	.32
1st Year Educ. Expenses (total)	.28
Expect to Be Doing in 1974 (level)	.34
1973 Total Income	-.27
Hrs. Worked/Wk. (1973)	-.29
Earnings/Wk. (1973)	-.25

Table 4.53

Predictive Value (Relevance) of Best 1972 Short-Term Occupational Criterion (Hrs. Worked/Week in 1972)

Follow-up Questionnaire Longer-Term Criterion	Correlation with Hrs. Worked/Wk. in 1972
Expect to Be Doing in 1974 (level)	-.37
Attend School Since High School (0 or 1)	-.42
Level of School Attended (1973)	-.28
Attend Same School (1973) (0 or 1)	-.27
Relevance of Reasons for School Change	-.20
Level of School Attended (1972)	-.33
No. Credits Earned	-.33
Level of Voc. Plans (1973)	-.28
Level of Educ. Aspir. (1973)	-.36
Level of Educ. Plans (1973)	-.40
Taking Courses (1973) (0 or 1)	-.29
Amt. Spent for Schooling (1973)	-.29
Total Income Earned (1973)	.35
Hrs. Worked/Wk. (1973)	.62
Earnings/Wk. (1973)	.43

Of the short-term educational outcomes there are two standouts in their extent and degree of relevance to the longer-term criteria. These are (a) whether or not the individual was attending school shortly after high school completion, and (b) the level of school attended in October 1972 (FFQ 29a and 32b respectively). Both have a highly similar pattern of predictive relationships that is typified by those shown in Table 4.52 for the dichotomous school attendance variable. In essence, school attendance immediately after high school represents a short-term educational outcome that is highly relevant (i.e., predictively valid) for a wide variety of later outcomes and ambitions. It can be seen in Table 4.52 that those who go on to postsecondary schooling shortly after graduation are the ones most likely (a) to be in school a year later (1973), (b) to express at that time higher levels of educational and vocational plans as well as higher educational aspirations, (c) to go to higher level educational institutions, and (d) to spend more for their schooling. Consistent with the findings from the earlier dimensional analyses, they are also likely to work less and earn less over the first year.

From the pool of short-term (1972) occupational criterion variables it is evident that there are three that are uniquely dominant in their predictive value for later (1973) performance: hours worked per week in 1972 (FFQ 58a), amount earned in 1972 (FFQ 56b) and number of weeks worked in 1972 (FFQ 58a). The predictive patterns are almost identical and are therefore presented in Table 4.53 only for the "hours worked per week" variable. The pattern is entirely reasonable in interpretation and tends to complement some of the prior findings with the criterion dimensions. Thus, the short-term outcome of hours worked per week in 1972 has substantial positive relationships with later performance outcomes of amount worked in 1973 (r = .62), earnings per week in 1973 (r = .50), and total income for 1973 (r = .35). The dozen remaining correlations shown are negative ones, indicating that the individual who spent more time working shortly after high school was the one who, approximately one year later, was likely to possess lower aspirations and plans (educationally and occupationally), was not likely to be involved in formal schooling and, where he was involved, was likely to be in a lower level school taking fewer credits. He was also more likely to have changed schools and to have spent less for his schooling. It should not be surprising that the individual who enters the job market right after high school--at a high level of participation--is least likely to be involved in the pursuit of further education and training a year later.

Whether or not the short-term relevant criterion measures found here would prove equally relevant for similar aspects of later performance, beyond the first post high school year, remains to be examined with future NLS follow-up data.

Chapter 4: Notes

1. Analyses are based on individuals who completed both the Base-Year Student Questionnaire and the First Follow-up Questionnaire. Weighted percentages are reported.

2. Parnes found that "...there is surprisingly little difference between black and white high school students with respect to their educational or occupational goals."

   Parnes, Herbert S., et. al., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1969, p. 190.

3. According to Shea and Wilkens, "The educational expectations of seniors in 1966 were strongly predictive of entrance to college."

   Shea, John R., and Wilkens, Roger A., Determinants of Educational Attainment and Retention in School, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, April 1972, p. iv.

   Roderick and Davis found that, "For both blacks and whites, movement into college is directly related to educational goals in 1968."

   Roderick, Roger D., and Davis, Joseph M., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 2, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, March 1973, p. 6.

   Likewise, Shea and Wilkens report, "All together, half of the 453 seniors responding in both years went on to college. While highly correlated with educational aspirations, educational expectations possessed the highest degree of explanatory power, and the largest split is between those who expected at least four years of college and those who did not--roughly equal groups in terms of the number of sample cases."

   Shea, John R., and Wilkens, Roger A., Determinants of Educational Attainment and Retention in School, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, April 1972, p. 14.

4. Roderick and Davis summarize from their findings, "...whites are more likely to achieve their educational goals."

   Roderick, Roger D., and Davis, Joseph M., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 2, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, March 1973, p. 14.

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5. Four Base-Year Student Questionnaire options indicated that further education would probably take the largest share of the respondent's time in the year after high school, namely, attending a four-year college, taking vocational or academic subjects in a two-year college, or attending a trade or vocational school. Three options provided in branching items for responses indicating continuation of education on a part-time basis while working full time, serving as an apprentice, or being a full-time homemaker. Individuals indicating plans for further education by any of the foregoing responses were classified as planning to continue their education in the year after high school for purposes of this analysis.

6. Duncan, O. D., Duncan's corrections of published text of 'peer influences on aspirations: A reinterpretation?' *American Journal of Sociology*, 1970, 75, pp. 1042-1046.

7. Chapter 6 develops additional path models which lend support to this finding; specifically, it is shown that the relationship between plans and aspirations on the one hand, and ability and achievement on the other, is greater for blacks than for whites. This, in turn, may suggest that the higher alignment of these variables for blacks is a result of intensified counseling in high-need sectors of the populations.

8. In evaluating these coefficients it should be kept in mind that the dichotomous criterion for whites was unevenly split (80% worker vs. 20% nonworker) whereas for blacks comparable percentages were 54 and 46, respectively. Nonetheless, these results tend to agree with those previously reported.

9. In an analysis of the same set of independent variables (not reported in detail) the full-time employed group was contrasted with a subgroup of the nonworking/part-time working group comprised of individuals who were *actively seeking employment*. In this analysis sex and ability predominated, as in the present analysis, but vocational curriculum did *not* contribute.

10. See Chapter 1, Note No. 4.

11. Level of vocational aspiration, which was available and utilized in the analyses of the base year data, does not appear as a variable in the First Follow-up Questionnaire.

12. No direct descriptive comparisons with general plans reported for the base year data are feasible, since the general plans variable in the Base-Year Student Questionnaire utilized a greater number of categories and permitted the choice of only *one* activity.

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13. This result is consistent with that found by Flanagan and Russ-Eft: "Both the men and women in this sample indicated that the most important component to their quality of life was health. At least 98% of them stated that physical and mental health was either important or very important to their quality of life. The second most important dimension for women and the third most important for men was close relationship with their spouse...For the males, job was more important than the relationship with spouse with 90.8% and 90.4% respectively indicating the two dimensions to be important or very important."

    Flanagan, John C., and Russ-Eft, Darlene, An Empirical Study to Aid in Formulating Educational Goals, American Institutes for Research, Palo Alto, California 94302, June 30, 1975, p. 32.

14. "It is interesting to note that for these 30-year-old men and women material comforts is in about middle position on importance for the 15 components describing quality of life. Many commentators on life in America strongly imply that financial considerations dominate the thinking of Americans. This view gets little support from this survey.

    Flanagan, John C., and Russ-Eft, Darlene, An Empirical Study to Aid in Formulating Educational Goals, American Institutes for Research, Palo Alto, California 94302, June 30, 1975, pp. 32-34.

15. Correlates for the three curriculum subgroups are highly similar to one another and to the pattern of correlations shown by sex.

16. See Chapter 1, Note No. 4, especially "Part II."

17. Differences in variance for whites and blacks on the plans-aspirations criterion measures of 1973 are, in fact, nil.

18. For males and females only, since correlations were not obtained by race in the base year study.

19. This result should be expected because relative rank on the two measures would be similar, for any sample of individuals, despite significant differences in mean score.

20. Any contrasts of 1973 vocational plans with 1972 vocational plans would be highly tenuous, since the item formats are totally different (i.e., LVP of 1972 is an open-ended fill-in item with no time period specified, whereas the 1973 FQ item is closed-ended with a choice to be made from 16 occupational categories that specify the occupational expectation "when you are 30 years old.") Nevertheless, in terms of gross comparisons, over the five status levels, overall differences between sexes and curriculum groups appear to be roughly comparable for the two time periods.

21. Hinze, B. A follow-up of decision changes from ACT Profile for freshmen at USU. Unpublished doctoral dissertation Utah State University, 1973.

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22. Berdie, R. F. and Hood, A. B. Decisions for Tomorrow: Plans of High School Seniors for after Graduation. Minneapolis: Jones Press Inc., 1945.

23. The General Plans Variables is not suitable for this sort of comparative analysis since base year (SQ 16) and First Follow-up (FQ 31) items are of questionable comparability in format and response alternatives.

24. Berdie, R. F. and Hood, A. B. Decisions for Tomorrow: Plans of High School Seniors for after Graduation. Minneapolis: Jones Press Inc., 1945.

25. "An interesting inter-color difference obtains among those respondents whose educational goal in 1968 was 14 years (i.e., two years of college). While equally likely to revise their aspirations upward, whites are more than twice as likely as blacks to revise downward (22% vs. 9%)." (p. 11)

"Fully one-fourth of the young women in both color groups who aspired to 16 or more years of education in 1968 have revised their aspirations downward by 1969. This result is in line with our expectations of a lowering of unrealistic goals over time." (p. 11)

"Among whites, the likelihood of having lowered educational aspirations is negatively associated with age. "...Among blacks, no clear direction of association can be discerned." (p. 14)

"The relatively high rate of downward revision [in educational goals] among 15-year-old whites suggests that whites tend to bring unrealistically high aspirations into line with reality earlier than do black girls. The latter seem not to do this until they are older and are confronted directly by the difficulties associated with obtaining higher education." (p. 14)

Roderick, Roger D., and Davis, Joseph M., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 2, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, March 1973, pp. 11 and 41.

26. "...these students, especially the males, had fairly realistic educational expectations. About 37% of the men received less education and 37% have received more education (to date) than they reported they expected as 15-year-olds. The women were slightly less realistic with 47% receiving less education than they reported they expected as 15-year-olds and only 24% receiving more than expected. Furthermore, it appears that, within each of the categories of expected education, women had less realistic expectations than did the men. For example, of the men who expected to complete 4 years of college, 49% have done so or have received more advanced education; on the other hand, only 34% of the women who expected to complete college have done so."

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Flanagan, John C., and Russ-Eft, Darlene, An Empirical Study to Aid in Formulating Educational Goals, American Institutes for Research, Palo Alto, California 94302, June 30, 1975, pp. 39 and 41.

27. Again it is evident that women's aspirations and expectations tend not to be realized as often as men's. The fact that outcomes agree better with expectations than aspirations is consistent with the idea that women find it necessary to lower their aspirations to meet their expectations. In one study it was found that "...young women who had aspired to four or more years of college in 1968, but actually expected to receive less, were relatively more likely to revise their aspirations downward [citation omitted]."

Roderick, Roger D., and Davis, Joseph M., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 2, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, March 1973, p. 11.

28. These proportions are considerably larger than the two-fifths found by Roderick and Kohen. Whether this discrepancy is due to the incomparability of base-year and follow-up items or whether it is due to a reality difference in the groups studied is unknown. Furthermore, just how much of a change constitutes a real altering of plans is not defined the same in both studies.

Roderick, Roger D., and Kohen, Andrew I., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 3, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, December 1973, p. 49.

29. If we recognize that students aiming for professional-technical careers are generally in academic programs, and vice versa, then our results are consistent with Kohen's and Parnes' finding that, "The most stable aspirations are found among youth who initially desired to be in a professional-technical job at age 30."

Kohen, Andrew I., and Parnes, Herbert S., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth, Vol. 3, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, June 1971, p. 23.

30. The current discrepancy between women's aspirations and the realization of those aspirations is reported by Roderick and Kohen: "...the expressed occupational aspirations still appear to be rather unrealistic. For example, among the out-of-school young women with work experience, more than one-third aspire to professional, technical or managerial

positions at age 35. In contrast, only about one-fifth of the currently employed women 35 to 39 years of age occupy those kinds of jobs. Finally, it appears that there is a positive relationship between the realism of aspirations and level of educational attainment, and that this relationship is stronger among black than among white women."

> Roderick, Roger D., and Kohen, Andrew I., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 3, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, December 1973, p. 50.

31. Approximately 600 cases, for SQ 96, were hand scored to provide the vocational plans figures shown in the tables.

32. Doing this simply required scoring "change or no change" from the single category selection of SQ item 31 to any choice of, or failure to choose, that particular category in FFQ item 16, no matter how many permissible choices were made in the later item. Interestingly, the general plans change score, despite the drawbacks in item comparability, behaved much the same way as the other change scores in its pattern of correlations with the background variables.

33. Roderick and Davis found that both father's education and family income were related to students' change of aspirations.

"The lowering of high educational aspirations is also largely negatively related to father's education."

"A strong positive relationship exists between family income and stability of high educational aspirations... The relationship is even more striking among blacks... This inter-color difference suggests that high-income blacks have more stable educational goals than do high-income whites."

> Roderick, Roger D., and Davis, Joseph M., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 2, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, March 1973, p. 11.

34. "...of young men who were enrolled in school in both 1967 and 1968, three in ten revised their educational goal during the intervening year... For both color groups, the fraction with increased aspirations is positively related to grade in school... Those with low initial goals were more likely than those with high initial goals to have made revisions upward and the reverse is true regarding downward revisions."

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Kohen, Andrew I., and Parnes, Herbert S., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth, Vol. 3, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, June 1971, p. 9.

35. Correlations for other subgroups (i.e., race and curriculum) are highly similar to these results for males and females.

36. Results are shown for the male sample of respondents only, since these correlations are typical of the pattern and level of relationships achieved for females and those of the racial and curriculum subgroups.

37. Whereas the general plans of 1972 are expressed in terms of one future activity expected to take the "largest share of your time," the first year actual activity item (FQ item 1) permits one or more responses with no basis for knowing which activity occupies the largest share of time.

38. "...the substantial disparity between the aspirations of the blacks and what realistically can be expected to be achieved, even on the most optimistic assumptions, creates the basis for large scale disappointment, disenchantment, frustration, and perhaps outrage."

Parnes, Herbert S., et. al., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1969, p. 190.

39. The approach and rationale for defining a relevant criterion domain has been discussed extensively in the literature. See, for example, the following:

Dunnette, M. D. Personnel Selection and Placement. Belmont, California: Wadsworth, 1967.

Guion, R. M. Criterion measurement and personnel judgments. Personnel Psychology, 1961, 14, pp. 141-149.

Thorndike, R. L. Personnel Selection. New York: Wiley, 1949. United States Department of Labor. Standards--Neighborhood Youth Corps.

Wherry, R. J. The past and future of criterion evaluation. Personnel Psychology, 1957, 10, pp. 1-5.

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40. These five are, of course, not intended to serve as criterion measures but as "marker" variables to aid in interpretation of the factor loading patterns.

41. Kaiser, H. F. The varimax criterion for analytic rotation in factor analysis. Psychometrika, 1958, 23, pp. 187-200.

42. Additional base-year predictors that were tried involved the students' perceptions of the influence of others on "plans for after high school" (e.g., school guidance counselors, teachers, principal, clergyman, etc.). No patterns of significant relationships were found for these variables with either educational or occupational criterion dimensions.

43. Freeberg, N., and Rock, D. Aspirations and Plans of High School Students: The Role of Academic, Social and Personal Characteristics. Project Report PR 75-5, Educational Testing Service, Princeton, N.J.: February 1975.

44. Brookover, W. B., Erickson, E. L., and Joiner, L. M. Educational aspirations and educational plans in relation to academic achievement and socio-economic status. The School Review, 1967 (Winter), 75, pp. 392-400.

45. See previous discussion of the basis for use of the "reality" score (Freeberg and Rock, 1975, p. 86).

CHAPTER 5

SUMMARY OF MAJOR FINDINGS

5.1 Introduction

This report is concerned with the members of the High School Class of 1972, especially for the period between their graduation from high school in the early summer of 1972 and the time of the First Followup Survey which was conducted approximately 18 months after graduation. This period of time was characterized by a number of events in the United States--and throughout the world--which may have affected members of the Class of 1972 in ways which we do not understand, and in ways different from those of earlier cohorts.

The time period encompassed the resignation of the nation's vice-president, and beginning of the Watergate affair. U. S. involvement in the Vietnam War was declining at the beginning of the period, and ended shortly before the end of the period. The Arab-Israeli conflict was in progress, and worldwide incidents of sabotage and terrorism were taking place.

The U. S. population was increasing, although at a decreasing rate compared to earlier years, with the increases reflected in rural declines and in the growth of small-to-medium cities. Age at first marriage was increasing for women, but declining slightly for men. The birthrate was continuing a steady decline in 1972-73, but the rate of illegitimate births was high, representing 12% of all registered births in 1972.

The divorce rate was at an all-time high, suggesting that the Class of 1972 contained greater proportions of persons from single-parent homes than at any earlier time in the nation's history.

The time period of this study represented a period of uncertain economic recovery from a mild recession and was almost instantly followed by a more severe one. Inflation was regarded as serious and, between the time when most of the Class entered high school and the time of this study, the Consumer Price Index increased 42%. During the 5-year period preceding the study the average weekly earnings of workers actually declined (in constant dollars) owing to reductions in wage rates and work hours. The labor force participation rates of young workers was on the increase for whites, reaching 72% for 18- to 19-year-old workers in 1973, but fluctuated for blacks (61% in 1973). Nearly 1/4 of all nonwhite males and 1/3 of all nonwhite females were unemployed in 1973.

The labor force participation rates of females was increasing, with the greatest involvement on the part of single women, who reached a participation rate of 56% in 1973. At the same time, the participation rates of young people who were enrolled in school were also increasing attaining a rate of 45% in 1973. Of those who were not enrolled in school, 90% were in the labor force.

In contrast to earlier cohorts, relatively large numbers of whites from the Class of 1972 did not go on to college. The increasing enrollment trends of blacks continued, bringing the proportion of blacks enrolled in college up to a par with that for whites. Owing to increases in population size, the declining enrollment rate did not result in appreciable declines in the actual numbers of students enrolled in colleges, and for those who did not go to college, nearly 1/3 could be found in special schools, generally vocational or technical in nature.

In 1971-72 educational expenditures represented slightly more than 8% of the Gross National Product. Educational revenues were continuing to shift away from local sources (51% in 1972-73), and continuing to shift toward greater state-level disbursements (40% in 1972-73), with a small rise in Federal disbursements (under 10% in 1972-73). A noteworthy share of these monies were allocated to vocational education; a share which increased 63% between 1967-68 and 1972-73. Two concomitants to this high national level of educational investment can be observed: first, that the school retention rates were trending upward (748 persons graduated from high school in 1972 for every 1,000 who entered 5th grade); second, the success rates of school bond elections were declining (56.5% in 1972-73).

These events and circumstances serve as a matrix in which the Class of 1972 was embedded at the time data were collected for the current study. The study may be considered an effort to determine what has happened to the Class of 1972 since graduation, especially as regards their educational and economic activities. The exploration goes somewhat beyond that objective, to explore something of the relationship between the characteristics of Class members during high school, the families from which they came, the high school educations they received, and the later educational and economic characteristics developed by the Class members. The development is presented in three parts: first, a description of post-high school activities and characteristics; second a series of analyses relating earlier characteristics to later educational and vocational characteristics; and third, a series of analyses relating earlier plans and aspirations to post-high school outcomes.

5.2 A Summary of Post High School Activities and Characteristics

At the time of the First Followup Survey 65% of the Class of 1972 was employed and 8% were out of work. The employment of blacks (58%) was lower than that of whites (66%). Graduates of the vocational high school curriculum were employed at higher rates than others (77%, compared to 68% for general curriculum graduates and 56% for academic graduates).

Forty-two percent of the Class was taking academic courses in a college or university. Whites (43%) were more likely than blacks (35%) to be taking academic course work, but blacks (16%) were more likely than whites (14%) to be taking vocational or technical postsecondary courses. Graduates of the high school vocational curriculum were least likely to be taking academic courses (13% for vocational graduates, 27% for general graduates, 68% for academic graduates). In general, females tended to take courses of shorter duration than did males.

Twenty-nine percent of the Class females indicated they were homemakers. This activity was most prevalent among Class members from low socioeconomic backgrounds and those of low academic ability. Homemaking varied dramatically according to high school curriculum: only 15% of the female academic graduates were homemakers, compared to 36% of the general graduates and 40% of the vocational graduates. Nearly three-quarters (74%) of the homemakers reported themselves to be married or formerly married. Marriage was less frequent among blacks than whites, but the presence of children among married blacks was more frequent than among married whites.

The distribution of the Class of 1972 across the nation seemingly differed from that of the general population; relatively more Class members were found in medium and large cities, and fewer in rural areas and small towns, than was true for the general population. Mobility was much higher than for the general population, as expected, since attendance at colleges and universities required relocations of a substantial proportion of the Class. Only 48% of the Class still lived at the same address as that held during high school.

Earnings during the study period were similar for blacks and whites, but much greater for males than females. The incomes of graduates of the vocational high school curriculum (median income was $3,920) tended to be greater than those of general or academic graduates (medians of $3,120 and $1,940, respectively), but these results must be tempered by the fact that academic graduates tended not to be in the labor force. The slight income advantage held by vocational graduates was confined to low-range incomes (under $6,000) and the advantage disappeared for higher incomes. Since female Class members tended to marry men older than themselves, and since male Class members tended to marry younger women, the family incomes of married female Class members (median of $7,470) tended to be appreciably greater than those of married male Class members ($4,660). In either case, women contributed approximately 27% of the family's income, except for black females who contributed 36%.

Educational Detail

Nontraditional forms of education were experienced by 21% of the Class during the period of the study. Most frequently, such education consisted of on-the-job training programs or no-credit courses taken for personal enrichment. Graduates of the high school vocational curriculum

(27%) were more likely than other graduates to have received some form of nontraditional education (general graduates, 22%; academic graduates 18%).

Traditional forms of postsecondary education were more popular. Sixty-four percent of the Class had experienced some form of traditional educational activity prior to October 1973. For those who did not pursue a formal postsecondary activity, the most frequently cited reason was a desire to earn money; vocational graduates were more likely than others to express this opinion. While many Class members entered some form of postsecondary formal education immediately after high school, others did not, but were enrolled by October 1973. These "stopouts" were compared with "dropouts" (those who were not enrolled either in October 1972 or October 1973). Stopouts were less likely than dropouts to indicate that they had no plans for education past high school, and dropouts were more likely to indicate a desire to marry instead of continuing their educations. Among blacks, dropouts were much more likely than stopouts to indicate that an attractive job offer was a reason for not continuing their education. Vocational graduates (40%) were much less likely than others to indicate they had participated in any form of postsecondary formal education (general graduates, 52%; academic graduates, 86%).

Of those who had made formal application to some postsecondary institution, 66% were accepted and attended their first-choice school. This rate was about 61% for male vocational graduates, and about 57% for female vocational graduates. Blacks and females were more likely than others to indicate that they had been accepted, but that they had not attended. The actual acceptance rate, regardless of attendance, was about 92%; this figure did not vary appreciably by race, sex, or high school curriculum.

Attendant to formal application for admission to postsecondary institutions, many respondents (1/3 of those who formally applied for admission) also applied for financial aid, although the figure for blacks (55%) was much higher. On the whole, 2/3 of the requests for financial aid were successful. The proportion of vocational graduates who applied for financial aid was slightly lower than other graduates, but their success rates were slightly higher.

Fifty-four percent of the respondents indicated taking some form of formal postsecondary activity in October 1972. The rate for whites (56%) was 11% higher than that for blacks. Vocational graduates were least likely to be enrolled in 4-year colleges and universities (17%); the rate for general graduates was twice as large and that for academic graduates four times as large. Two-thirds of the vocational graduates who participated in formal postsecondary education programs were evenly divided between junior or community colleges and vocational-technical institutions.

By October 1973 the enrollment rates had declined 11% for females, but only 7% for males, reflecting the shorter programs in which females engaged. Among those enrolled in schools,there were slight declines in the proportions attending vocational schools, no appreciable change in junior colleges, and a 5% increase in the proportion attending 4-year colleges, reflecting the earlier completion of course work at vocational institutions, with a subsequent withdrawal from educational enrollment.

Economic Detail

Quite a variety of job-seeking methods were used by Class members in an attempt to find employment. On average, somewhat more than 2 methods were used by each respondent. The most frequently used methods were direct application to an employer (used by 67% of jobseekers, 78%

of whom were successful), and recourse to friends and relatives (57% used the method, 81% of whom were successful). Females were slightly more reluctant to use friends and relatives than were males, and those who used the method experienced slightly lower success rates compared to males. Direct application was also slightly less effective for females than for males. The preferences of females led them to school and college placement services, professional publications and organizations, civil service applications, and other methods with greater frequency than males, and with generally greater success rates than those experienced by males. Blacks were likely to employ a greater number of methods than whites, but were less successful with all methods. The data suggested that employability was constrained for all but high academic ability blacks.

About one Class member in five (18%) spent more than four weeks on layoff or seeking employment during the year following October 1972. The figure for blacks (29%) was nearly twice that for whites (16%).

Job changing was somewhat more frequently found among whites (20% changed employers) than among blacks (15%), and somewhat more likely among males than among females (22% of males had three or more employers, compared with 17% of females).

On the average, vocational graduates worked a greater number of weeks during the period October 1972-October 1973 than did graduates of other curricula, blacks worked fewer weeks than whites, and females fewer weeks than males.

Twenty-nine percent of the Class indicated they had received some form of job-specific training during high school. This figure was 37% for females (20% for males) and 35% for blacks. Vocational graduates expressed much higher rates--51% for males and 72% for females. Females, blacks, high ability and high socioeconomic status respondents were more apt than others to have had an opportunity to apply these skills on the job. Vocational graduates, however, had lower rates of application, relative to rates at which they received job-specific training, than did graduates of other curricula.

Employed respondents, on the average, were very mildly positive about their jobs, but there were large numbers of respondents who were very satisfied and corresponding numbers who were very dissatisfied. Blacks were slightly less satisfied with their jobs than were whites; however, when job satisfaction data were controlled for ability, SES, and other variables, the situation reversed to indicate a slightly greater satisfaction level among blacks than among whites.

Between October 1972 and October 1973, the proportion of the Class which was employed increased 7%. Employment gains were greater in the high ability/high SES sectors of the population, possibly reflecting the completion of schooling and subsequent entry into the labor market. Of those who were unemployed in October 1972 or in October 1973, only 20% indicated that they actively looked for work during those periods; the rate for blacks, however, was twice as high as for whites (38% to 17%). Estimated labor force participation rates increased by 5% overall, over the year, but increased more for high ability respondents (11%), high SES respondents (11%), and female academic graduates (12%). The estimated unemployment rate of the Class dropped 3% over the year (6% for blacks and females from the academic and vocational curricula).

Those who were not working during October 1972 or October 1973 provided a variety of reasons for doing so, with schooling most frequently presented (75% in 1972, 66% in 1973). For nonworking females of the general curriculum (1/3) and the vocational curriculum (1/2), homemaking was frequently cited as a reason for not working.

Those who were employed were largely employed in the private sector (83%), with government employing the balance. Governmental employment of blacks (24%) was higher than for whites. The jobs held by employed Class members tended to fall into only 7 categories: salesman (9%), clerical (30%), craftsman (14%), operator (13%), labor (9%), and service (15%) occupations. Both sexes participated in each of these occupational clusters with the exception of craftsman and labor which were confined to males. Blacks were present in most categories, but were less frequently found in salesman positions.

Sixty-two percent of those employed in October 1972 were working more than 31 hours per week; in October 1973 the figure had risen to 70%. Median weekly earnings in October 1973 were $91 overall, $111 for males, $76 for females. There was no appreciable racial wage rate differential. 1973 wage rates were about 23% higher than those of 1972 (29% for males, 19% for females). These increases overcame the inflation rate which then prevailed, but the annual earnings of the typical Class member (under $3,000) provided little economic security.

5.3 Relations of Activity States to Earlier Variables

A number of activity states were defined to represent the activities of the Class during the period of the study. Of these, five predominated by incorporating most of the Class. These five were: (a) 4-year college or university enrollment; (b) 2-year college enrollment; (c) vocational-technical school enrollment; (d) working; and (e) not working (including homemaking). The definition of these activity states involved a sequential classification system in order to establish mutually exclusive groupings; thus, a person enrolled in a 4-year college would be classified under that heading even if working full time. A respondent would be classified as "not working" only if he belonged to no earlier-mentioned state, e.g., enrolled in some kind of school or working.

The use of the sequential activities grouping procedure allowed a clear differentiation among groups on two bases. First, a large number of variables gathered during the 1972 Base Year Survey had means which differed significantly by primary activity state. Second, a series of multiple group, multiple discriminant functions successfully discriminated the groups on the basis of variables gathered during the 1972 Base Year Survey. Although separate analyses were conducted by race, by sex, and by high school curriculum, the results tended to be highly similar across all analyses. The first two discriminant functions always accounted for practically all variation among groups. The first discriminant function tended to separate groups by activity state. This function generally consisted of ability, achievement variables, and home environment variables (such as parental expectations for the offspring's educational future). The dominant variables all had the same sign, implying that they acted in concert to differentiate adjacent activity states. For example, high academic ability, high secondary school grades, and high parental educational expectations tended to characterize those in 4-year colleges. Slightly lower values of these variables tended to characterize those enrolled in 2-year schools. Successively smaller values of these variables tended to characterize, successively, vocational-technical school enrollees, workers, and nonworkers.

The second discriminant function always served to discriminate the particular sample subgroups on demographic bases--blacks from whites, males from females, vocational from general and academic graduates. While the nature of the function varied according to the particular sample subgroups involved in the analysis, the second function typically was characterized by a balancing of competing forces. For example, high ability and projected educational level were contrasted with high school grades and projected occupational level to distinguish males from females (high mathematical ability and projected educational level, compared to grades and projected occupational level were more characteristic of males, while lower mathematical ability and projected educational level, compared to grades and projected occupational level were more characteristic of females).

It was suggested that the involvement of respondents in one primary activity state, as opposed to another, was determined in the same manner for all demographic groups studied, albeit that the demographic groups differed from each other in level on the first discriminant function. Moreover, the nature of the relationship developed by the first discriminant function suggests a gradient across the activity states, starting with 4-year college status and ending with nonworking status. Interpretation of these analyses suggest that the primary determiner of whether one engages in postsecondary education, or works, or does neither depends upon the amount of academic ability and the degree of educational orientation possessed by the respondent; those who are high in these qualities tend to pursue postsecondary educations, lower ones work, and still lower ones do neither.

The decision to enroll in postsecondary education was further explored in two major analyses which attempted to predict enrollment status. The first, based on stepwise regression analyses, employed a number of base year variables to predict enrollment status. Results indicated that enrollment was positively associated with a set of cognitive variables (mostly measuring academic ability), the respondent's level of educational aspirations and plans, participation in the academic high school curriculum, the level of family educational expectations for the respondent, the family educational level, and number of years in the community. An exception was found for respondents who were enrolled in vocational or technical schools; these tended to be lower on family aspirations, compared to academic ability and family background variables, than were nonstudents. Low level of family aspirations for the respondent's continued education, relative to the respondent's self-assessed ability to complete college, the family education level, and the respondent's projected educational level appeared to be a distinctive factor separating vocational-technical school enrollees from those not enrolled. Race, per se, was not found to be a significant determinant of enrollment status.

The second major analysis associated with the prediction of enrollment status employed an econometric model which first was used to simultaneously fit two basic equations, one of which related to demand for education while the other related to labor force participation. The strongest predictor developed by this analysis related to financial need, and reflected a tendency for those with large financial needs not to be enrolled in postsecondary education. The second strongest variable, the desire for postsecondary education, positively related to enrollment. For whites, but not for blacks, earlier participation in the high school academic curriculum was associated with postsecondary school enrollment. Family socioeconomic status variables did not relate to enrollment, perhaps owing to the more direct effects of financial need and educational desire. Family income was found to be a factor relating to whether a respondent would be enrolled both in October 1972 and October 1973; larger family incomes were associated with continuance of education, especially for blacks. The concern for finances, as related to postsecondary school attendance, employment, and other areas, was thematic for blacks, at least when compared to whites. The model was then reduced by removing the requirement for simultaneous fitting of the employment-oriented equation. The reduced model was then refitted using the same variables, with results suggesting that participation in the academic curriculum, academic ability, and family socioeconomic status do relate to enrollment, and to continuance of enrollment as well.

Employment status was also examined using both stepwise regression procedures and the econometric model. The former suggested that race, sex, and ability were related to employment. Those employed tended to be white, male, and of higher ability and lower levels of personal and family educational aspirations. The full econometric model merely reiterated the basic school-vs.-work decision by suggesting that those who were not enrolled in school, and those having high financial needs tended to be workers. The reduced econometric model (removing the requirement for a simultaneous fit with the educational enrollment equation) indicated that graduates of the academic high school curriculum were less likely than others to be employed. A third analysis was derived as a component of a path analysis. The results suggested that both academic achievement and race were factors--higher achievement and being white were positively related to employment status.

Hours of work supplied per week during October 1972 and October 1973 were also examined. Academic graduates tended to work fewer hours, compared to graduates of the other high school curricula. The suggestion was present that the educational orientation of more academically able respondents led to lowered economic activity. Family income related negatively to continued nonworking status, and there was some suggestion that females from high income families tended to work more hours.

Attempts to predict wage rates were generally unsatisfactory, and there was reason to believe that wage rates do not depend on characteristics of the individual other than sex (females are paid lower wages than males). It was found that higher wages were associated with lowered job satisfaction.

5.4 The Fulfillment of Plans and Aspirations

While there were numerous exceptions, the plans made by the respondents during high school tended to be realized during the period of the study. For example, 91% of those who had planned to attend a 4-year college were in some form of postsecondary school, as were about 3/4 of those who had planned to attend a 2-year college. Fifty-seven percent of those who had planned to attend a vocational-technical postsecondary school went on to some form of postsecondary education, 48% in vocational-technical schools. Those who planned to become homemakers were least likely to engage in postsecondary education. More than 60% of those who had planned to be involved in on-the-job training programs during the year after high school were actually doing so, and 68% of those who had planned to work full time were engaged in a consistent form of activity.

Vocational and general graduates who, during high school, had planned to go to a 4-year college or university were much less likely to be involved in postsecondary education than were graduates of the academic curriculum (the rate for vocational and general graduates was about 55%, compared with 80% for academic graduates). In general, of those who planned postsecondary educational activities, academic graduates were most likely to realize their plans.

Of those who planned full-time work, vocational graduates were most likely to realize their plans. Sixty-six percent of the vocational graduates who planned full-time work were either working full time, in on-the-job training programs, or in apprenticeship programs, compared to 38% of the general graduates and 36% of the academic graduates.

Blacks with postsecondary educational plans actualized them at lower rates than whites. A similar pattern held for employment. In every category not calling for further education, proportionally more blacks than whites were enrolled in school, again reflecting the lower rate of plans actualization of blacks. Twenty-six percent of the blacks who had planned to work full time were actually doing so, compared with 42% of the whites. Among blacks who had planned some form of formal traditional postsecondary education, the proportion who were "gainfully occupied" (in school or working) was greater than that of other blacks.

An analysis was undertaken to relate background characteristics of the respondents to the realization/nonrealization of their plans. Two components of these analyses dealt with the realization/nonrealization of planned school enrollment. The first component, conducted by stepwise regression, indicated that those who planned postsecondary school enrollment tended to realize their plans when they were characterized by high academic ability, good high school grades, high parental educational expectations, and when the respondent's projected educational level was high. While family income was a factor for blacks in the realization of enrollment plans (it was not for whites), race, per se, did not appear to be a factor. The second component of analysis was derived from a path analysis, and indicated that agreement with best friend (a variable not included in the stepwise regression) was also important. This analysis also indicated that low achievers tended not to realize their plans for enrollment. Blacks were more likely than whites to report a broad range of influences on their career decisions, i.e., to indicate they had received inputs from parents, teachers, counselors, friends, and others.

Realization/nonrealization of plans for employment during the year after high school were analyzed by stepwise regression. The results indicated that planned full time employment was most often realized by respondents characterized by high academic ability, good high school grades, and the male sex. Ability and grades were more strongly predictive of realization of employment plans for blacks than for whites. For whites, but not for blacks, participation in the high school vocational curriculum was associated with the realization of plans for full-time employment.

Levels of Plans and Aspirations

A large series of analyses were directed toward the examination of levels, and changes in levels over time, of the respondents' general plans, educational plans and aspirations, and vocational plans. At the time of the First Follow-up Survey the most strongly endorsed general plan was that of having a good marriage and a happy family life, a view which was more strongly endorsed by females than males, and more strongly endorsed by vocational graduates than those of other curricula. Success in one's line of work ranked second in value and was most strongly endorsed by males and academic female graduates. Having strong friendships ranked third. Males valued this general plan more than females on the whole, and academic graduates valued it more highly than did other respondents. Among females, academic graduates valued it more than others. Material wealth ("having a lot of money") was given a low ranking.

The average level of educational aspirations of males (slightly more than two years of postsecondary education) was slightly greater than that of females (who preferred slightly less than two years). The aspirations of blacks were slightly higher than those of whites. Of the three curriculum groups, the educational aspirations of vocational graduates were lowest. As expected, the levels of educational plans and aspirations, and of vocational plans were all lower than they had been while the respondents were in high school.

Regressive prediction of the current level of educational aspirations resulted in an association between current aspiration level and the earlier levels of educational plans and aspirations, together with some effect due to the level of parental educational expectation for the respondent. As was generally found, the earlier educational plans of the respondents predicted later educational aspirations better than earlier educational aspirations. Interestingly, the ability measures obtained during high school predicted current educational aspirations better than they had predicted the same aspiration during high school.

The level of educational plans during the First Followup was slightly lower than the level of educational aspirations in each major subgroup of the sample. The level of educational plans of blacks was indistinguishable from that of whites. Parental educational expectations, and the respondent's earlier educational plans and aspirations were the best predictors of the current level of educational plans. A relatively weak predictor, level of father's education, was the strongest family characteristic found to be associated with current level of educational plans. High school characteristics were poor predictors.

Vocational plans for males, in terms of planned occupational status, were higher than those of females; those of blacks were slightly higher than those of whites. Vocational plans of academic graduates were markedly higher than those of general graduates which, in turn, were slightly higher than those of vocational graduates. Parental educational expectations for the respondents, and the respondents' earlier vocational plans and aspirations were the best predictors of the current level of vocational plans. Ability variables were also effective predictors, and were more directly related to level of vocational plans than to educational aspirations and plans. As for educational plans, level of father's education was the most powerful family variable and school characteristics were unimportant as predictors of the level of vocational plans.

Changes in Levels of Plans and Aspirations

Between high school and the time of the First Followup Survey a number of changes in levels of plans and aspirations were observed. The value of marriage and family life increased somewhat, with males increasing more than females. The value of success in one's line of work declined, with the value for females declining more than males. There was also a decline for academic males and vocational females. Strong friendships declined in value more than either of the former, and did so rather uniformly; there was no appreciable variation in the amount of decline by race, sex, or high school curriculum.

Level of educational aspirations declined overall, but declined least for academic graduates. Whites declined more than blacks and females declined more than males. Level of educational plans declined also, but less than did aspirations. The pattern of decline was similar to that for educational aspirations, except that no curricular variation was found. A race x sex interaction indicated that black males tended to decline less than white males, while there was no appreciable racial difference between females.

The level of vocational plans, represented as status of planned occupation, declined overall, but declined least for academic graduates. The level for females declined markedly more than for males, and that for whites slightly more than that for blacks. A sex x curriculum interaction was found which indicated that the level of vocational plans for male vocational and general graduates increased while that of academic male graduates declined; among females, those of general and academic graduates declined slightly, but that of vocational graduates declined drastically.

Respondents with high socioeconomic status backgrounds, those receiving more parental encouragement, and those from schools in higher socioeconomic neighborhoods were least likely to undergo a change in their educational and occupational decisions. The prediction of decision change was best made by ability variables; other variables were weak. Changes in general plans, educational plans, and educational aspirations were found to be associated with changing of schools during the followup period, and to be associated with withdrawal from training programs prior to completion. Changes in level of vocational plans were, predictably, related to changes in field of study in school during the current period. The results of this analysis reiterated the lower rates of plans realization by blacks, compared to whites. Where plans were not realized, the current activity tended to be at a lower level than that originally planned. Females tended to drop to lower levels than males, and vocational graduates showed the least discrepancy. The analysis also detected a sex x race interaction which suggested that black males actualize their plans at much lower levels than white males, with little difference between levels of black and white females.

Dimensions of Postsecondary Activity

A large number of variables were factor analyzed in order to describe parsimoniously the patterns of postsecondary activities of the Class. Two such analyses were performed in order to establish both educational and vocational dimensions of activity.

A total of 8 dimensions of postsecondary educational activity were found, but only two of these, Educational Ambition and School Persistence were found in all three curriculum groups. Three additional factors were found in the general curriculum group: Level of Educational Choice, Financial Commitment, and School Involvement. One additional factor, Educational Commitment (similar to Financial Commitment and School Involvement) was found for the academic curriculum group. Two additional factors, School Involvement (somewhat similar to the School Involvement factor of the general curriculum) and Aborted School Attempt were found for the vocational curriculum group.

A total of 4 dimensions of postsecondary vocational activity were found. Three of these, Work and Earnings, Steady Employment, and Job Adjustment were found in similar form in all three curricular groups. The fourth factor, Unsuccessful Job Seeking, was found only in the general and vocational curriculum groups.

An attempt was made to predict the outcome dimensions using base year variables associated with levels of educational plans and aspirations, general plans and aspirations, and parental expectations. Among the educational outcome factors, only Educational Ambition was well predicted for all three curriculum groups. Only two other factors, Financial Commitment for general curriculum students, and Educational Commitment for academic curriculum students, developed base-year-variable-to-factor correlations of .40 or greater.

Attempts to predict vocational outcome dimensions were successful only for the factor Work and Earnings. While the correlations between base year variables and this factor were significant for all curriculum groups, correlations for the vocational curriculum group were less than .30 in absolute value.

Predicting 1973 Outcomes with 1972 Outcomes

The search for relevant criterion variables for future activity concluded with an examination of the relationships between October 1972 outcome measures and October 1973 outcomes. Two 1972 variables were found to have strong relevance for 1973 educational outcomes. These were school attendance shortly after high school graduation and level of school attended in October 1972; both variables are predictively valid for a wide variety of later outcomes and ambitions.

Three occupational criterion variables were found: hours worked per week in 1972, amount earned in 1972, and number of weeks worked in 1972. These variables were predictively valid for similar variables in October 1973, and related negatively to educational activities.

Whether these short-term criteria will apply as well in later years remains to be examined in future NLS follow-up data.

CHAPTER 6

METHODS OF ANALYSIS

6.1 Introduction

With few exceptions the analytical methods used in developing the findings of this study are straightforward and should be clear from the context of discussion. In some cases there may be a need for additional explanation. In this chapter we discuss some of the methods used throughout the report.

6.2 Discriminant Analyses

In multivariate comparisons involving two groups to be discriminated, as in Section 3.4 of the report, the method employed was multiple point-biserial regression analysis using missing data procedures. The method yields weights that are functionally equivalent to those yielded by Fisher's discriminant function analysis applied to two groups. The weights specify the linear composite of several independent variables under consideration that most effectively discriminates the two groups--i.e., that exhausts the information about group differences contained in the independent variables.

In comparisons involving three or more activity groups (as in Section 3.3), the method used was multiple discriminant analysis (MDA) using only complete data cases. MDA is of particular value for determining whether all or essentially all the information about group differences contained in a specified set of independent variables can be accounted for by only one or two uncorrelated linear composites (discriminant functions) of those variables.

As indicated in Chapter 3, the discriminant functions were fitted by stepwise procedures, successively adding variables to the regression until the multiple coefficient of determination failed to improve by .001.

6.3 Econometric Models

The full analytical model applied in Chapter 3 is similar to those frequently used to study the aggregate time-series of enrollment pattern and employment rate. Since in the present study we were not concerned with labor force participation rate, a simultaneous two-equation system was sufficient to examine the interaction between college attendance and work participation. These two equations are analogous to "the demand for higher education" and "the supply of labor." However, without attempting to resolve the identification problem, they can be conveniently referred to as the enrollment equation and the employment equation respectively.

Let us denote an individual's college attendance status by y_1 and an individual's employment status by y_2 (both are dichotomous, with a value of 1 or 0). To examine the interaction between y_1 and y_2, we may assume the following relationship:

$$(1) \quad \begin{pmatrix} 1+\rho_{11} & \rho_{12} \\ \rho_{21} & 1+\rho_{22} \end{pmatrix} \begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \begin{bmatrix} f_1 \ (\underline{x}_1 \ ; \ \alpha) \\ f_2 \ (\underline{x}_2 \ ; \ \beta) \end{bmatrix} + \begin{pmatrix} u_1 \\ u_2 \end{pmatrix}$$

where f_1 and f_2 remain to be specified. ρ_{ij} and α and β are unknown functions or parameters to be estimated, u_1 and u_2 are yet unspecified error terms. In the usual econometric model, ρ_{11} and ρ_{22} are implicitly assumed to be zero since the diagonal elements are usually normalized to unity, and ρ_{12} and ρ_{22} are assumed to be constant and thus independent of any other variables. For our purposes, we shall adopt a more general assumption by specifying that the ρ's depend on other variables which may be a subset of $\underline{x}_1$ or $\underline{x}_2$ (and possibly lagged endogenous variables).

For convenience of empirical application, we may use linear specification for f_1 and f_2 in Equation (1). Furthermore, if we ignore the identification problem we may assume $\underline{x}_1$ and $\underline{x}_2$ to be identical. If we specify ρ's to follow the relationships:

$$\rho_{11} = \lambda_1 x_1 \text{ , } \rho_{12} = \lambda_2 x_2$$
$$\rho_{21} = \mu_1 x_1 \text{ , } \rho_{22} = \mu_2 x_2$$

then, with k independent variables, we have

$$(2) \quad \begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \alpha_0^* & \alpha_1 & \alpha_2 & \cdots & \alpha_k \\ \beta_0^* & \beta_1 & \beta_2 & \cdots & \beta_k \end{pmatrix} \begin{pmatrix} 1 \\ x_1 \\ x_2 \\ \vdots \\ x_k \end{pmatrix} + \begin{pmatrix} -\lambda_1 y_1 & -\lambda_2 y_2 \\ -\mu_1 y_1 & -\mu_2 y_2 \end{pmatrix} \begin{pmatrix} x_1 \\ x_2 \end{pmatrix} + \begin{pmatrix} u_1 \\ u_2 \end{pmatrix}$$

which can be used for empirical estimation if appropriate x's are specified and the corresponding data are available.

Among possible explanatory variables that can be used to explain the status of college attendance and work participation, we consider financial need and educational desire as most important. These two variables will be denoted as x_1 and x_2, respectively. In addition, we also consider other explanatory variables such as high school curriculum and student scholastic achievement as additional explanatory variables. Specifically, our list of explanatory variables includes:

x_1 : "financial need" to supplement family income (yes = 1, no = 0);
x_2 : "educational desire" to obtain college education (yes = 1, no = 0);
x_3 : high school curriculum (academic = 1, nonacademic = 0);
x_4 : vocabulary test score;
x_5 : mathematics test score;
x_6 : family income level;
x_7 : parent educational level;
x_8 : parent occupational status;
z_1 : cost of college attendance;
z_2 : student's earnings.

In applying (2) to the analysis of NLS data, some measurement problems must be resolved. Above all, the attitudinal variables such as financial need and educational desire are not directly measured. Instead, students are asked to indicate whether financial need is an important reason for not attending college, and if pursuing college education is a major reason for not holding a job. In other words, we know whether a student has a financial need only if he is not in college. Similarly, we know whether a student has a strong desire for college attendance only if he is not working (the data are taken from FFQ 29 and FFQ54--in FFQ29, a selection of A, B, C, or Q is considered as having financial need, and in FFQ54, a selection of B or D is considered as having college desire). In terms of the notation used in (2), the available data, though they do not provide x_1 and x_2 themselves, do include some measures of $(1-y_1)x_1$ and $(1-y_2)x_2$; namely, indicators of not attending college because of financial need, and not working because of educational pursuits. By manipulating equation (2) slightly, $(1-y_1)x_1$ and $(1-y_2)x_2$ can be introduced as two independent variables. However, x_1 and x_2 cannot be eliminated from the equation easily. The only observed data that are closely related to x_1 and x_2 are z_1 and z_2 respectively. Because of the lack of adequate measures of x_1 and x_2 in this empirical study we simply use z_1 and z_2 as measures of x_1 and x_2, respectively. Furthermore, we assume that the effects of enrollment and employment are of the same magnitude, but with opposite signs. Thus, in effect, we introduce $x_2-x_1 = z_2-z_1$ as an independent variable to replace x_1 and x_2. This variable will be simply referred to as "net income," since it is measured as the difference between student earnings and educational cost, if any.

With the modifications discussed above, our analytical model (Equation 2) can be alternatively written as

$$(3)\quad \begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \begin{pmatrix} \alpha_0^* & \lambda_1 & \lambda_2 & \eta & \alpha_3 & \cdots & \alpha_k \\ \beta_0^* & \mu_1 & \mu_2 & \xi & \beta_3 & \cdots & \beta_k \end{pmatrix} \begin{bmatrix} 1 \\ (1-y_1)\,x_1 \\ (1-y_2)\,x_2 \\ (x_2-x_1) \\ x_3 \\ \vdots \\ x_k \end{bmatrix} + \begin{pmatrix} u_1 \\ u_2 \end{pmatrix}$$

where $(1-y_1)x_1$, $(1-y_2)x_2$, and (x_2-x_1) are now measurable. Equation (3) can be used for empirical estimation.

The analytical model shown as equation (3) can be used to study the determinants of 1972 enrollment status and work participation. For studying 1973 enrollment status and work participation it can be applied separately for different subgroups with different educational and job experience, since the effects of various determinants can be expected to differ depending on individual's previous experience.

An alternative to this approach, which accomplishes essentially the same objective is to generalize (3) by introducing a pair of new variables indicating previous educational and job experience. These two new variables may be denoted simply as $y_{1(t-1)}$ and $y_{2(t-1)}$, respectively, where $y_{1(t-1)}$ is last year enrollment status and $y_{2(t-1)}$ is last year employment status. A particularly simple formulation which is useful is to assume

$$\rho_{11} = \left[\lambda_1 + \lambda_3 \, y_{1(t-1)}\right] x_1 \, , \quad \rho_{12} = \left[\lambda_2 + \lambda_4 \, y_{2(t-1)}\right] x_2$$

$$\rho_{21} = \left[\mu_1 + \mu_3 \, y_{1(t-1)}\right] x_1 \, , \quad \rho_{22} = \left[\mu_2 + \mu_4 \, y_{2(t-1)}\right] x_2$$

so that we may specify

$$(4) \quad \begin{pmatrix} \alpha_0^* \\ \beta_0^* \end{pmatrix} = \begin{pmatrix} \alpha_0 \\ \beta_0 \end{pmatrix} + \begin{pmatrix} y_{1(t-1)} & 0 \\ 0 & y_{2(t-1)} \end{pmatrix} \begin{pmatrix} 0 & \lambda_3 & \lambda_4 & \eta & \alpha_{k+3} & \cdots & \alpha_{2k} \\ 0 & \mu_3 & \mu_4 & \xi & \beta_{k+3} & \cdots & \beta_{2k} \end{pmatrix} \begin{bmatrix} 1 \\ (1-y_1)\ x_1 \\ (1-y_2)\ x_2 \\ (x_2-x_1) \\ x_3 \\ \vdots \\ x_k \end{bmatrix}$$

Note that parameters α_i and β_i for $i > k$ measure the additional effects for the subgroups with $y_{1(t-1)} = 1$ and $y_{2(t-1)} = 1$; namely, previously enrolled or employed. Substituting (4) into (3), we can write our model explicitly as

$$(5)\quad \begin{pmatrix} y_1 \\ y_2 \end{pmatrix} = \left[\begin{pmatrix} \alpha_0 & \lambda_1 & \lambda_2 & \eta & \alpha_3 & \cdots & \alpha_k \\ \beta_0 & \mu_1 & \mu_2 & \xi & \beta_3 & \cdots & \beta_k \end{pmatrix} + \begin{pmatrix} y_{1(t-1)} & 0 \\ 0 & y_{2(t-1)} \end{pmatrix} \begin{pmatrix} 0 & \lambda_3 & \lambda_4 & \eta & \alpha_{k+3} & \cdots & \alpha_{2k} \\ 0 & \mu_3 & \mu_4 & \xi & \beta_{k+3} & \cdots & \beta_{2k} \end{pmatrix} \right] \begin{bmatrix} 1 \\ (1-y_1)x_1 \\ (1-y_2)x_2 \\ (x_2-x_1) \\ x_3 \\ \vdots \\ x_k \end{bmatrix} + \begin{pmatrix} u_1 \\ u_2 \end{pmatrix}.$$

This is the analytical model actually employed to study the determinants of college attendance and employment status. The same model is used to examine both 1972 and 1973 college attendance and work participation. However, when (5) is applied to analyze 1972 status of education and job involvement, parameters η, ξ, λ_i, and μ_i, for $i = 3$ and 4 as well as α_i and β_i for $i > k$ are all assumed to be zero. This is equivalent to assuming that $y_{1(t-1)} = 0$ and $y_{2(t-1)} = 0$ for all individuals during 1972, a reasonable approach, since the previous educational levels of all individuals in the base year were very similar--they were all high school seniors.

Since we are interested in the choice behavior of high school graduates, only those actually graduated (FFQ2) were included in the analyses. Each analysis of 1972 enrollment and employment status was accompanied by corresponding results for 1973. In both cases, equation (5) was used; the only difference was that for 1972 the restrictions $\alpha_0^* = \alpha_0$ and $\beta_0^* = \beta_0$

were imposed (i.e., with $\eta = \xi = 0$, λ_i and μ_i for $i = 3$ and 4 as well as α_i and β_i for $i > k$ all assumed to be zero), while no such restrictions were imposed for 1973.

In the full econometric model, emphasis was on the contemporaneous interdependence between enrollment and employment. The analyses of both macro time-series data and micro-cross-sectional data of the National Longitudinal Study there indicated that enrollment and employment were indeed related. Although the full model touches the issue of intertemporal dependence, it does not treat it directly.

This difficulty is overcome by performing the analyses of educational status and employment status separately. The conceptual framework governing the analyses must be regarded as based on a "reduced form equation" for any given time period. Intertemporal dependence, because of the natural time sequence, can be handled by a "recursive system" rather than a fully interactive simultaneous equation system. Thus the analytical model employed is relatively simple.

The analytical models for studying intertemporal dependence of college attendance, hours of study, educational performance, and employment status have the same general structure and can be most conveniently explained by assuming a linear specification such as

$$(6) \qquad \begin{pmatrix} 1 & 0 \\ \rho & 1 \end{pmatrix} \begin{pmatrix} y_{t-1} \\ y_t \end{pmatrix} = \begin{pmatrix} \alpha_0 \\ \beta_0 \end{pmatrix} + \begin{pmatrix} x_{t-1} & 0 \\ 0 & x_t \end{pmatrix} \begin{pmatrix} \alpha_1 \\ \beta_1 \end{pmatrix} + \begin{pmatrix} \mu_1 \\ \mu_2 \end{pmatrix} .$$

where y_{t-1} and y_t are the endogenous variables, x_{t-1} and x_t are exogenous variables, ρ remains to be specified, and α's and β's are parameters to be estimated. In the usual econometric models ρ is assumed to be constant. However, in the present analysis we assume

$$\rho = -\begin{pmatrix} x_t & y_{t-1} \end{pmatrix} \beta_2$$

so that Equation (6) can be rewritten as

$$(7)\quad \begin{pmatrix} y_{t-1} \\ y_t \end{pmatrix} = \begin{pmatrix} \alpha_0 \\ \beta_0 \end{pmatrix} + \begin{pmatrix} x_{t-1} & 0 \\ 0 & x_t \end{pmatrix} \begin{pmatrix} \alpha_1 \\ \beta_1 \end{pmatrix} + \begin{pmatrix} 0 & 0 \\ 0 & x_t y_{t-1} \end{pmatrix} \begin{pmatrix} 0 \\ \beta_2 \end{pmatrix} + \begin{pmatrix} \mu_1 \\ \mu_2 \end{pmatrix}$$

which can be used for empirical estimation. The magnitude $\rho = -(x_t y_{t-1})\, \beta_2$, in fact, measures the cumulative or intertemporal effects, while α's and β's both measure immediate or short-term effects.

The rationale for assuming the existence of intertemporal dependence, i.e., $\rho \neq 0$ (or $\beta_2 \neq 0$) can be based on the familiar "partial adjustment" hypothesis. Assume that long-run equilibrium level and the observed value for time period t are related as

$$(8a)\quad (y_t - y_{t-1}) = (1-\rho)\, (y^*_t - y_{t-1}),$$

implying

$$(8b)\quad y^*_t = (y_t - \rho y_{t-1}) \,/\, (1 - \rho),$$

where y^*_t and y_t are equilibrium and observed values. Assume further that long-run equilibrium y^*_t is determined by

$$(9)\quad y^*_t = \gamma_0 + x_t\, \gamma_1 + u_2.$$

Then, by combining Equations (8) and (9), we have

$$(10)\quad y_t = (1-\rho)\, \gamma_0 + x_t\, (1-\rho)\, \gamma_1 + \rho y_{t-1} + u_2.$$

Comparing Equation (10) with the second equation of (7), we find

$$\beta_0 = (1-\rho)\ \gamma_0\ ,\ \beta_1 = (1-\rho)\ \gamma_1$$

and $\rho = -x_t\ \beta_2$. Notice that ρ indicates the fraction completed in the adjustment process during the current time period, β_0 and β_1 are short-term effects, and γ_0 and γ_1 are long-term effects.

Alternatively, the second equation in equation (7) can be written as

(11a) $y_t = \beta_0 + (\beta_1 + \beta_2\ y_{t-1})\ x_t + u_2,$

implying

(11b) $\dfrac{\partial y_t}{\partial x_t} = \beta_1 + \beta_2\ y_{t-1}.$

Equation (11b) shows that the effect of x_t on y_t is dependent on the value of the endogenous variable in the last time period. This simple hypothesis by itself can be used to justify the specification of the second equation in (7).

6.4 Structural (Path) Analyses

Altogether, five analytical models were built and tested in an effort to assess the complex causes underlying (1) decision-making in the occupational-educational aspiration area, (2) post high school wage rates, (3) change or lack thereof in activity states, (4) employment status, and (5) post high school educational progress.

The first model is reported here, rather than in Part I of the report, for two reasons: first, because it serves as a convenient illustration of interpretive procedure; and second, because a number of methodological concerns were evaluated through the model. This model compared blacks and whites for consistency of relationships among four basic constructs (factors), with results presented in Tables 6.1 and 6.2 and displayed in Figures 6.1 and 6.2.

Circles in the figures indicate unobserved constructs or factors while rectangular boxes represent the observed indicators of their respective factors. Arrows going in one direction specify the direction of causality. Arrows between two variables or constructs going in both directions, as between father's SES and mother's SES, signify that one is unable or unwilling to assume the direction of causality. Path coefficients were estimated and inserted on one-directional arrows while correlations (no causal assumptions) were estimated for two-way arrows. Except where specifically indicated, the path coefficients may be interpreted as a standardized partial regression coefficient. Thus their relative size is proportional to their importance as a determinant. That is, the relative size of any given path coefficient may be interpreted as the relative direct influence of the variable at the tail of the arrow on the variable (or construct) at the head of the same arrow. "Direct" in this sense is defined as that influence which remains after all other prior independent variables in the causal equation have been controlled. The total causal effect of one variable on another may have two estimable components, the direct effect, i.e., unmediated by any intervening variables, and the indirect effect which takes into consideration one or more intervening variables. For example, in Figure 6.1 the total effect of mother's SES on the offspring's occupational-educational aspirations is the sum of the direct effect defined by the path coefficient ($b^*_{n_2 \xi_2} = .094$) and the indirect effect which is the product of $b^*_{n_1 \xi_2}$ and $b^*_{n_2 n_1}$.

Table 6.1

Direct and Indirect Effects of White Occupational-Educational Aspirations

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Ability Achievement			
(R = .38)			
Father's SES	.27		.27
Mother's SES	.14		.14
Occupational-Educational Aspirations			
(R = .71)			
Father's SES	.18	.15	.33
Mother's SES	.09	.08	.17
Ability Achievement	.58		.58

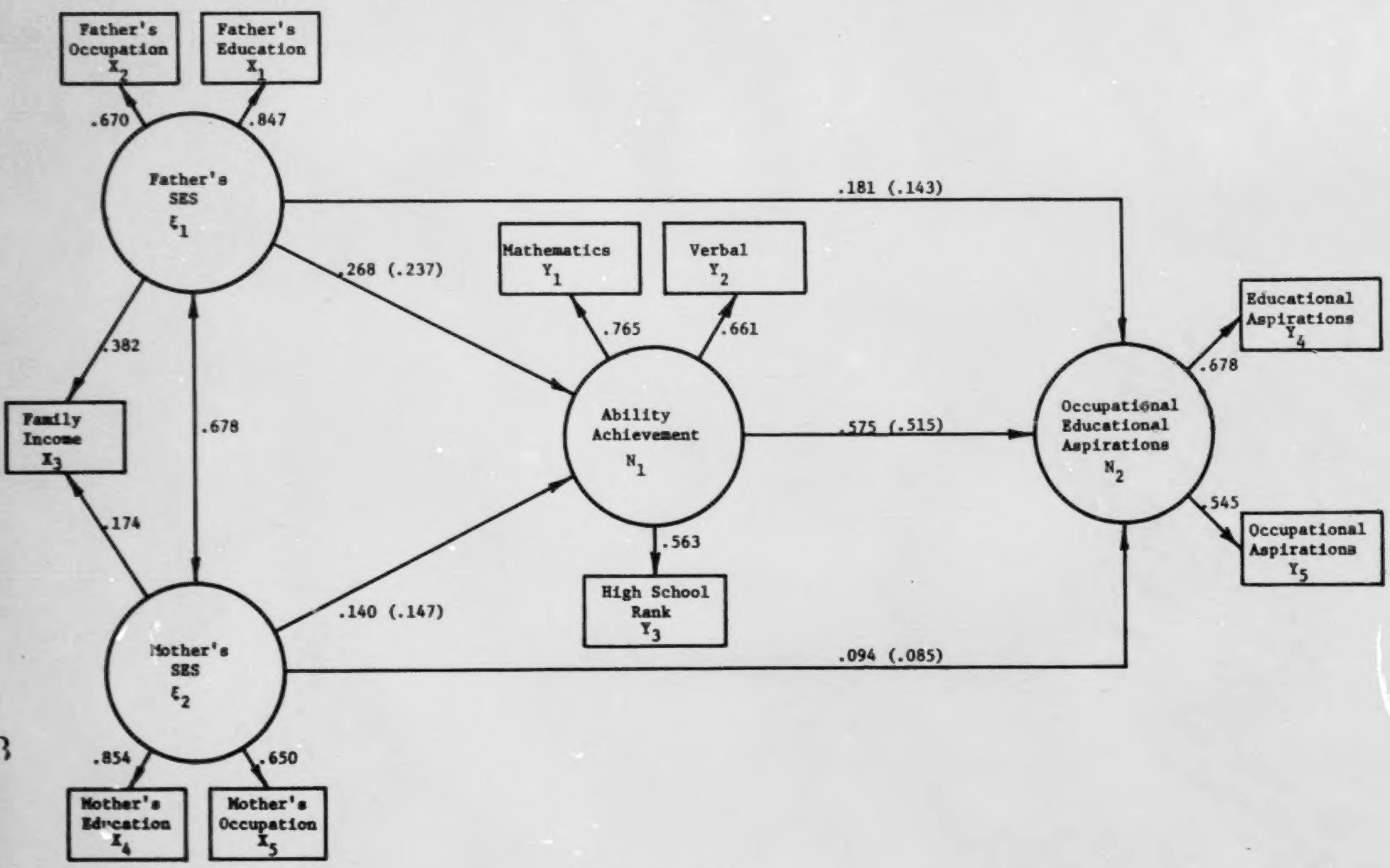
Table 6.2

Direct and Indirect Effects of Black Occupational Educational Aspirations

Causes	Direct Effects	Total Indirect Effects	Total Hypothesized Effects
Ability Achievement			
(R = .27)			
Father's SES	.21		.21
Mother's SES	.08		.08
Occupational-Educational Aspirations			
(R = .91)			
Father's SES	.15	.18	.33
Mother's SES	.00	.07	.07
Ability Achievement	.86		.86

Figure 6.1

Structural Model of White Occupational Educational Aspirations


Father's Occupation X_2
Father's Education X_1
.670
.847
Father's SES ξ_1
.181 (.143)
.268 (.237)
Mathematics Y_1
Verbal Y_2
.765
.661
.382
.678
Family Income X_3
Ability Achievement N_1
.575 (.515)
Educational Aspirations Y_4
.678
Occupational Educational Aspirations N_2
.545
Occupational Aspirations Y_5
.174
.563
High School Rank Y_3
.140 (.147)
Mother's SES ξ_2
.094 (.085)
.854
.650
Mother's Education X_4
Mother's Occupation X_5

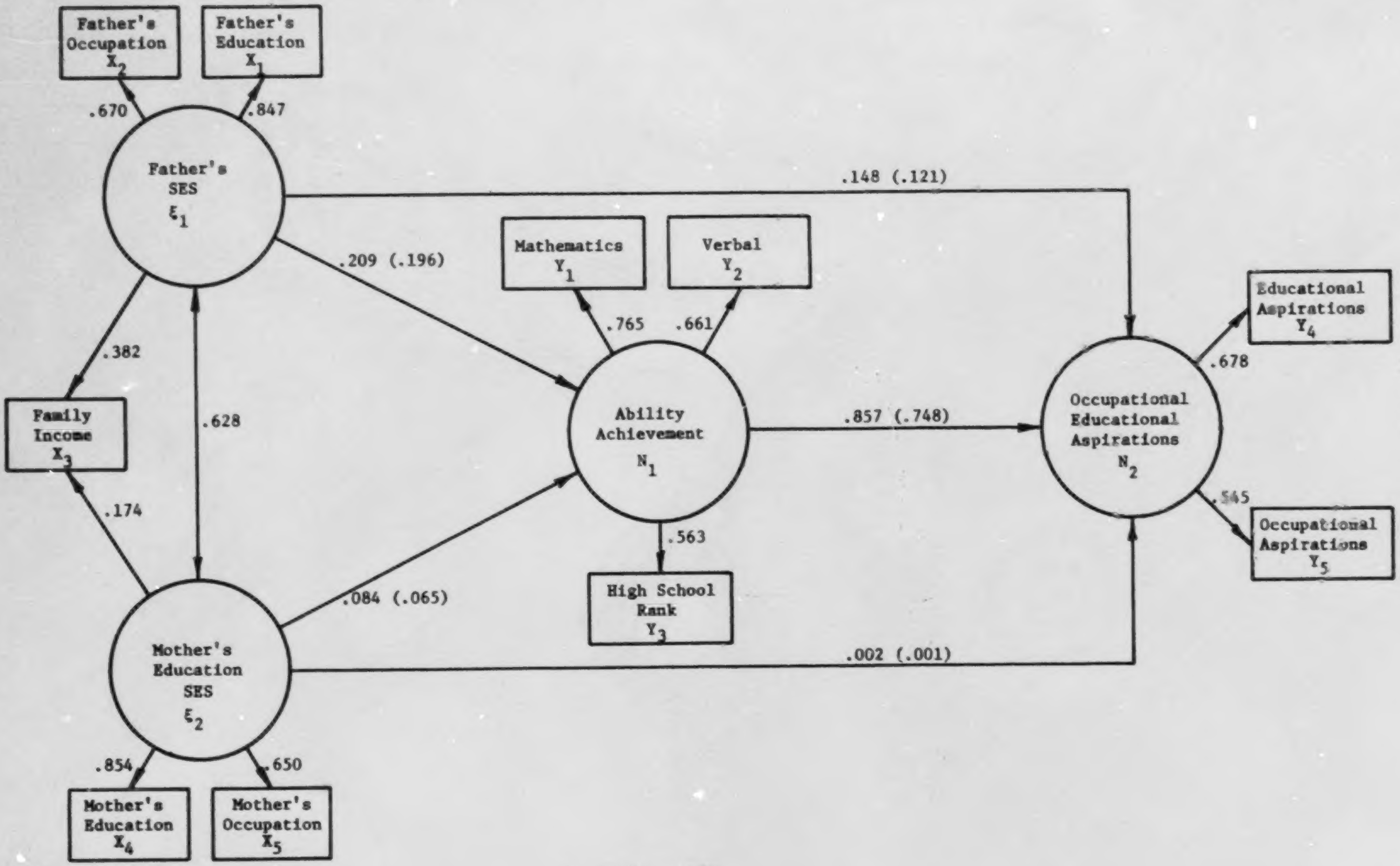
$R_{\eta_1} \cdot \xi_1 \xi_2 = .378$

$R_{\eta_2} \cdot \eta_1 \xi_1 \xi_2 = .711$

Path coefficients are shown in both standardized and raw score form. The raw score coefficients are shown in parentheses.

Figure 6.2

Structural Model of Black Occupational Educational Aspirations


Father's Occupation X_2
Father's Education X_1
.670
.847
Father's SES ξ_1
.148 (.121)
.209 (.196)
Mathematics Y_1
Verbal Y_2
.765
.661
Educational Aspirations Y_4
.382
.678
Family Income X_3
.628
Ability Achievement N_1
.857 (.748)
Occupational Educational Aspirations N_2
.174
.545
Occupational Aspirations Y_5
.563
.084 (.065)
High School Rank Y_3
.002 (.001)
Mother's Education SES ξ_2
.854
.650
Mother's Education X_4
Mother's Occupation X_5

$R_{\eta_1} \cdot \xi_1 \xi_2 = .270$

$R_{\eta_2} \cdot \eta_1 \xi_1 \xi_2 = .907$

Path coefficients are shown in both standardized and raw score form. The raw score coefficients are shown in parentheses.

The comparison of structural models across populations can be posed as a combination of (1) hypothesis testing factor analysis across populations[1] and (2) the estimation and comparison of the relationships among the factors through the use of Lisrel.[2] In order to carry out such an analysis one must have a sufficiently strong theoretical model in order to postulate and test the number of factors, the pattern of loadings and, to a lesser extent, the structural relationship among the factors. That is, a formal sequential testing procedure is followed in which one first asks (1) Are there the same number of hypothesized factors for black and white?, (2) If so, do they mean the same thing? (i.e., do they have similar loading patterns), and (3) If the above two criteria are met, are there similar structural relations among the factors?

Why should one be concerned about comparing the factor structure underlying these particular variables for blacks and whites? The answer is that these variables are important as control variables and/or mediating causes in many of the succeeding causal models. If the factors underlying these variables are found to be different and/or the relationships among them are clearly different, then separate models would be in order for blacks and whites. It should be remembered here that this comparison is concerned with variance-covariance differences and not mean difference. If the factor structure underlying the observed variance-covariance is found to be reasonably similar then any remaining mean differences between blacks and whites can be handled through the use of "dummy coding" of racial group membership.

The maximum likelihood analysis (MLH) indicated that four factors did explain quite well the variance-covariances for both blacks and whites. Furthermore the hypothesis that the factor loading patterns were the same for both blacks and whites was also not rejected. That is, four factors explained the data for both racial groups and more importantly the four factors could be defined the same way for both groups. The hypothesis of identical interrelationship among factors was rejected however.

Although socioeconomic status has traditionally been treated as a single-factor construct,[3] our results (Figures 6.1 and 6.2) suggest two factors, instead; in particular, that mother's SES and father's SES are distinct. It should also be noted that the important components of SES, both for mother and for father, are education and occupation, not family income,[4] or alternatively, that if SES is defined in terms which meaningfully relate to other constructs, then the definition should rely but little upon income. This interpretation recognizes that certain skills require but little education and are not regarded as prestigious, but nonetheless command respectable salaries.

Mathematics turns out to be the most valid indicator of the offspring's ability and/or achievement construct, while high school rank is the worst. This finding is probably due to different grading practices depending on the high school one attends.

As in the case of the parents, educational aspirations of the offspring appear to be a more consistent indicator of the occupational-educational aspirations construct than do occupational aspirations. It would seem that one's educational aspirations are more stable than one's occupational aspirations. This finding seems reasonable in light of the ever-changing job market.

Inspection of the structural relationships between the SES factors indicate that for the most part marriage partners come from similar SES levels regardless of race. That is, there appears to be very little cross-social class difference between blacks and whites with respect to mating. This result should come as no surprise since the NLS sample is primarily middle class since the subjects had to at least have entered the senior year in high school. It is interesting to note that the father's SES is more important than the mother's SES in determining the child's ability-achievement construct. Similarly the total effect [e.g., see Tables 1 (a) and 1 (b)] of father's SES on the child's occupational-educational aspirations is also considerably more important than the mother's SES. It is possible that the dominance of father's SES, relative to mother's, regarding the child's ability-achievement and occupational aspiration is that (1) the father is the traditional achievement model with respect to the work-a-day world, and (2) the father is the traditional stereotype of the authority figure within the home. These two hypotheses are not mutually exclusive and would tend to act together. Support for the first contention is present in the much larger factor loading of family income on father's SES than mother's SES (.38 vs. .17). That is, because of the male predominance in the professional world (unjustified or not), there is a much stronger relationship between father's occupation and education and family income while conversely mother's occupation and education is not nearly as consistent with her contribution to family income. In short, the father's achievements typically pay the family bills and thus have the greater influence on the achievements and aspirations of the children. It is also interesting to note that the total effect of father's SES on the child's occupational-educational aspirations is exactly the same for both blacks and whites (total effect = .33), while the white mother's SES is somewhat more important in determining her children's aspirations than is the black mother's SES.

As pointed out earlier, although the number and type of the factors were the same for both blacks and whites, there was a difference in the structural relationships between the factors for the two racial groups. This difference resides almost wholly in the path coefficient from the ability achievement construct to the child's occupational-educational aspirations. That is, the rank ordering of ability and achievement is more consistent (holding constant SES) with the occupational-educational aspirations of the black child than for the white child. This finding might arise from the fact that some of the able middle class whites may no longer subscribe to the theory that a college education is a prerequisite to success within the "system" or what is even more likely that a college education is "part and parcel" of the "system" which many able white students are rejecting. That is, middle class value systems, etc., may now be playing a greater role in dictating educational-occupational decision making for the black child than the white child. Further evidence for this hypothesis is presented later in the educational progress model.

Since the number and type of factors as well as all but one of the structural relationships among the factors were similar for the two racial groups, the data were pooled for the models presented in Part I of this report. However, since mean differences could be expected, racial group membership was included as an explanatory variable in each model.

Chapter 6: Notes

1. Joreskog, K. G., and Van Thillo, M., SIFASP, A General Computer Program for Simultaneous Factor Analysis in Several Populations, RB-70-62, Educational Testing Service, Princeton, NJ 08540, 1970.

2. Joreskog, K. G. and Van Thillo, M., LISREL, A General Computer Program for Estimating a Linear Structural Equation System Involving Multiple Indicators of Unmeasured Variables, RB-72-56 Educational Testing Service, Princeton, NJ 08540, 1972.

3. For example, see:

   Duncan, O. D., Featherman, D. L., and Duncan, B., Socioeconomic Background and Achievement, New York: Seminar Press, 1972.

4. This finding is consistent with some recent work regarding class identification of married women. For example, see:

   Ritter, K. V., and Hargens, L. L., "Occupational positions and class identifications of married working women: A test of the asymmetry hypothesis," in American Journal of Sociology, Vol. 80, No. 4, 1975, pp. 934-948.

CHAPTER 7

NONRESPONSE AND RELATED CONCERNS

7.1 Introduction

During the Base Year Survey it was noted that losses to the sample due to nonresponse and early closings of schools was systematic: such schools tended to be small, enrolling fewer than 300 students in grade 12; they also tended to be rural in location and in the southeast United States. Concerns for nonresponse bias from such sources were appreciably diminished by the "re-survey" of schools conducted by the National Center for Education Statistics (NCES) following the Base Year Survey, since the re-survey obtained information from a number of schools which had not participated earlier.

The sample was structurally modified to admit data from such schools and their students, as well as in other ways, which resulted in an increase in the targeted sample size, raising it from the 18,400 students intended in the Base Year Survey to about 23,451 students.[1]

Of this number, First Followup Questionnaires are missing from 2,101. Thus losses to the sample represent about 9% of the targeted number. This figure, however, refers only to the number of returned First Followup Questionnaires, and does not relate to the degree of completion. In this chapter we shall consider more carefully the structure and response characteristics of the First Followup Questionnaire.

7.2 Structural Aspects of the First Followup Questionnaire

Form B of the First Followup Questionnaire (FFQ) contained 99 items in addition to information useful for locating members of the sample in the future. Many of the items were composed of subitems, however, so that the total number of response fields was nearly 400. While many of the items required responses of all respondents, extensive internal branching directed respondents to skip certain items on the basis of earlier responses so that no one was required to answer all items and subitems.

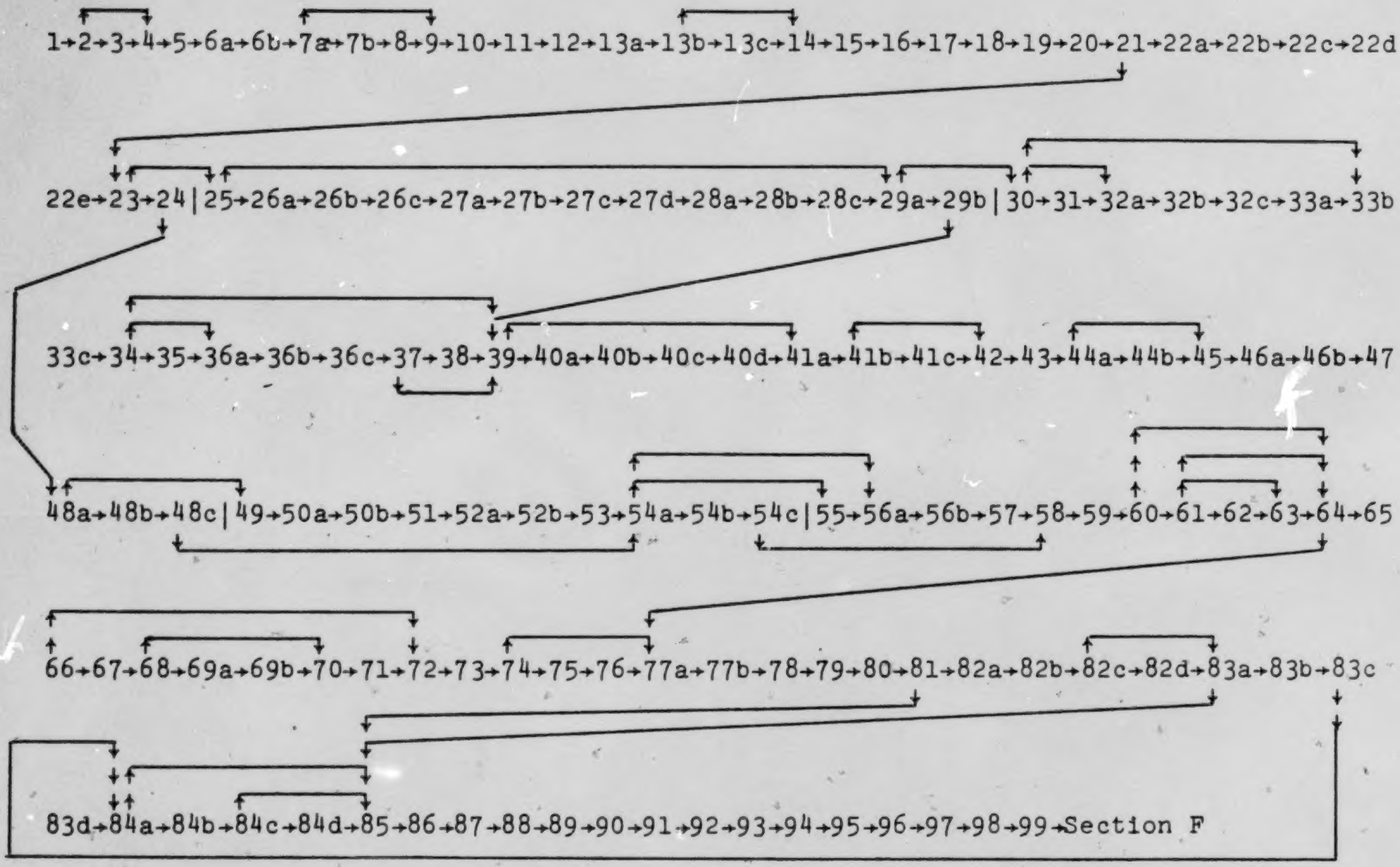
Branching

The branching of the FFQ is displayed schematically in Figure 7.1. Arrows indicate the alternative means by which respondents can be led to answer, or to skip, items in the FFQ. Thus, for example, a respondent can come to answer Item 29a either by previously answering Item 28c or by giving a particular response to Item 25; also, depending on the response to Item 29a the respondent will be instructed to answer either Item 30 or Item 29b. If the respondent is directed to Item 29b he will not respond to Items 30-38, but will be directed to Item 39.

Branching items frequently cause difficulty in questionnaire responses owing to the failure of respondents consistently to follow instructions. A simple demonstration will illustrate the point. Item 7a of the FFQ is the first branching item. It asks for the respondent's marital status as of October 1973 and, if the respondent indicates he is married, divorced, separated, or widowed, he is instructed to answer next Item 7b, then Item 8, which asks whether the respondent has children and, if so, for the number of such children. A total of 3,318 respondents clearly indicated themselves as being married, divorced, separated, or widowed and, additionally, there were 129 respondents who provided

Figure 7.1

Schematic Representation of Branching in the FFQ


1→2→3→4→5→6a→6b→7a→7b→8→9→10→11→12→13a→13b→13c→14→15→16→17→18→19→20→21→22a→22b→22c→22d
22e→23→24|25→26a→26b→26c→27a→27b→27c→27d→28a→28b→28c→29a→29b|30→31→32a→32b→32c→33a→33b
33c→34→35→36a→36b→36c→37→38→39→40a→40b→40c→40d→41a→41b→41c→42→43→44a→44b→45→46a→46b→47
48a→48b→48c|49→50a→50b→51→52a→52b→53→54a→54b→54c|55→56a→56b→57→58→59→60→61→62→63→64→65
66→67→68→69a→69b→70→71→72→73→74→75→76→77a→77b→78→79→80→81→82a→82b→82c→82d→83a→83b→83c
83d→84a→84b→84c→84d→85→86→87→88→89→90→91→92→93→94→95→96→97→98→99→Section F

responses which, while somewhat ambiguous, might conceivably be considered in some way similar, providing a possible total of 3,447 married, divorced, separated, or widowed respondents--yet 3,543 respondents (at least 96 more than proper) provided answers to Item 8 which asked for the presence and number of children.[2]

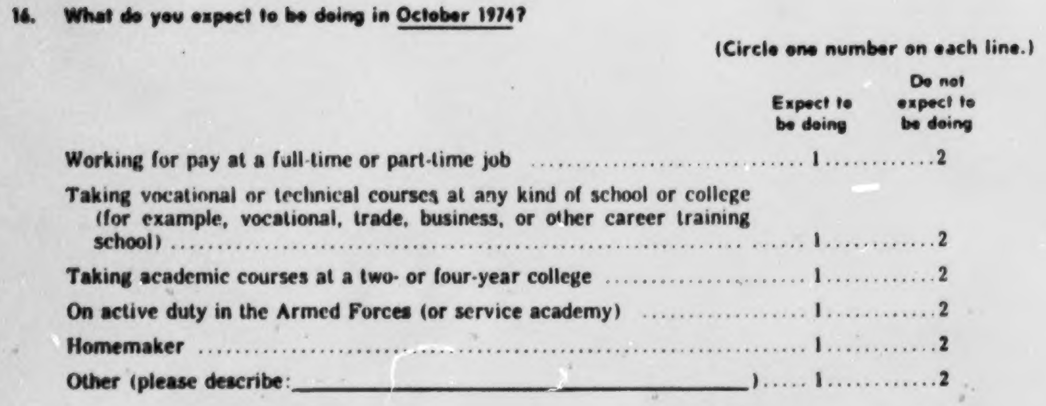
Frequently, when later responses are conditioned on earlier ones, errors can be detected on the basis of an inconsistency of responses between affected items; however, it is not generally possible to determine where the inconsistency arose. Thus, data from both items become doubtful and must be treated with circumspection. The extensive branching of the FFQ has seriously exacerbated this problem.

Item Format

A number of FFQ items were presented in a format in which the respondent was directed to provide a binary response to each of a sequence of subitems. An example is FFQ Item 16 (Figure 7.2). One would expect a respondent who answered any part of Item 16 to have provided answers to all parts. This, however, turns out not to be the case; rather, a peculiar response pattern appears. The typical pattern begins with a high response rate to the first subitem; subitem response rates decline over the next few subitems, finally stabilizing. When the last one or two subitems is reached, there is an additional large drop in subitem response rate. Figure 7.3 illustrates the pattern obtained for FFQ Item 16.

Figure 7.2

First Followup Questionnaire Item 16



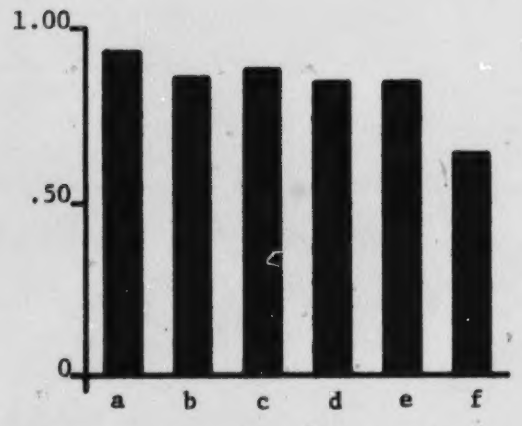
16. What do you expect to be doing in October 1974?

(Circle one number on each line.)

	Expect to be doing	Do not expect to be doing
Working for pay at a full-time or part-time job	1	2
Taking vocational or technical courses at any kind of school or college (for example, vocational, trade, business, or other career training school)	1	2
Taking academic courses at a two- or four-year college	1	2
On active duty in the Armed Forces (or service academy)	1	2
Homemaker	1	2
Other (please describe: ____________________)	1	2

Figure 7.3

Response Rates for Subitems of Item 16



Subitems

Items of this format have been extensively used in the Base Year Survey as well as all Followup surveys to date, but the phenomenon of declining response rates has not previously been reported. It would be interesting to develop an understanding of the stimulus properties of such items which induce, or which might counteract, the described response pattern.[3]

Financial Items

The FFQ contains 50 response fields which require the respondent to enter a financial dollar quantity. Most of these fields are associated with educational incomes, earnings, and expenses. Nonresponse rates for the dollar entries averaged 66% over the 25 items for which data were prepared directly from responses. FFQ Item 47 requested the remaining 25 dollar entries; these were not directly coded onto computer tape, but were condensed into a set of 14 codes, seven representing sources of funds, and seven representing quantities. Since there is not a one-to-one relationship between the 14 codes provided and the 25 response fields it is not possible to state the nonresponse rates for Item 47. However, it will be shown that the two-thirds nonresponse to the other 25 financial items is appreciably greater than that of the average item.

The quantity of financial information requested of the respondents was extensive; this, coupled with phrasing which suggested a demand for exactness in the respondents' answers, may have been perceived as unduly laborious by the respondents.

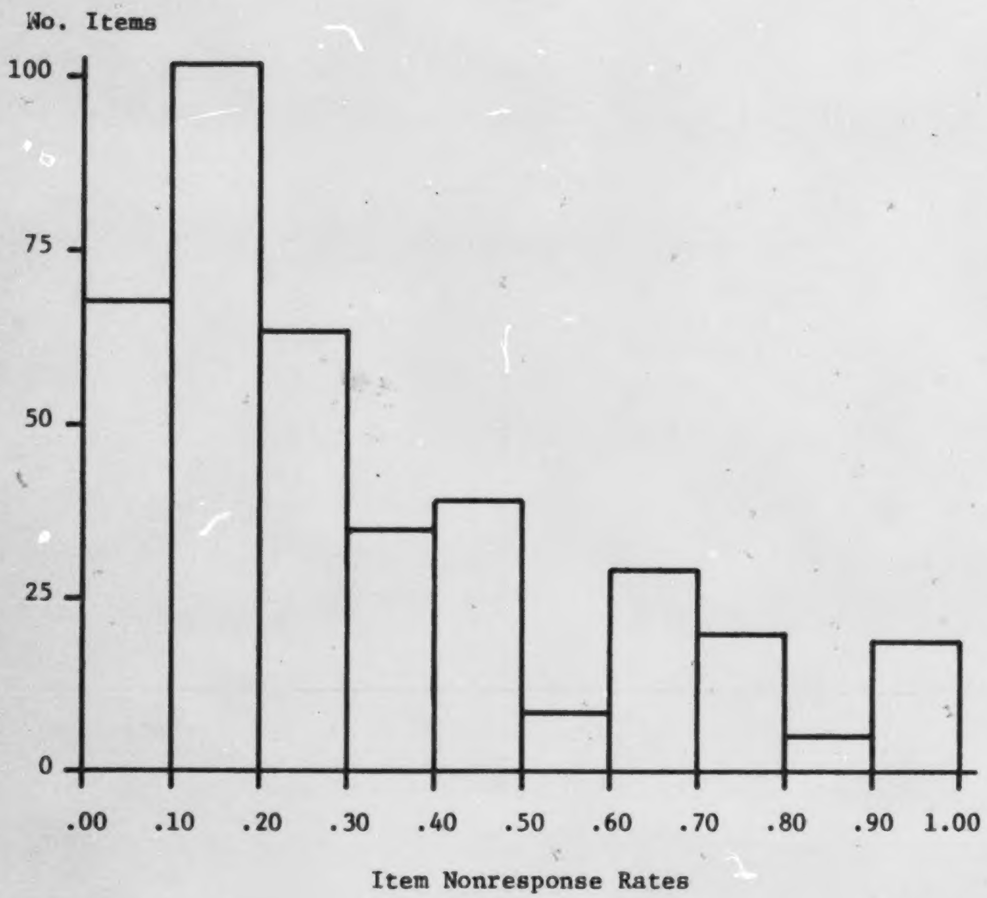
7.3 Item-Level Nonresponse

An analysis of a variety of item-level defects was conducted[4] to evaluate the seriousness of item nonresponse, refusals, don't knows, out-of-range, and multiple responses. Only item nonresponse was appreciable.

Figure 7.4 shows the histogram of frequency of nonresponse rates for the 389 FFQ items evaluated. The average FFQ item was omitted by 32% of the respondents who should have answered. The presence of a relatively few items with much higher nonresponse rates inflates the mean somewhat, and the median nonresponse rate is somewhat lower (25%). It can also be noted that somewhat more than one-fifth of all FFQ items obtained nonresponse rates in excess of 50%.[5]

Figure 7.4

Frequency Distribution of FFQ Item Nonresponse Rates



The Base-Year and First Follow-up Data File Users Manual[6] indicates that certain FFQ items were designated "critical items." Intensive follow-up efforts were applied to assure that these items did not develop serious nonresponse rates. Thirty-nine of the 42 critical items were evaluated for nonresponse characteristics. It was determined that the mean non-response rate for these items was 15% (median = 16%, approx.). Thus, it can be seen that the additional effort to secure these items resulted in appreciable lowering of their nonresponse rates.

Of course, the relatively high level of item nonresponse acts in concert with the corresponding branching error rate to reduce the overall effectiveness of the First Followup Questionnaire. As nearly as we could determine, not one FFQ respondent, out of the 21,350 respondents who received the questionnaire, properly completed the entire instrument.

7.4 Nonrespondents and Partial Respondents in Relation to Base Year and First Followup Surveys

An analysis was undertaken to determine whether nonresponse or partial response for the Base Year Survey (Student Questionnaire) was related to nonresponse or partial response during the First Followup.[7] To accomplish this, 18,280 persons in the sample were cross-classified according to the degree to which they completed the two instruments.

The measure used for this purpose was the percent of necessary items properly answered. This is a crude measure at best since branching errors make it impossible to determine exactly which items a respondent should have answered. Nonetheless, the statistic was computed and divided into five groups of roughly equal size[8] for each instrument. The crossclassification thereby resulted in 25 groups and a chi-square test for contingency was conducted. Table 7.1 provides the percentage frequency distribution of the 18,280 respondents over the 25-fold table.

Table 7.1

Percentage Frequency Distribution of Nonrespondents and Partial Respondents During Base Year and First Followup Surveys

	Base Year Partial Response Rate					
First Followup Partial Response Rate	1.00	.06-.99	.03-.05	.01-.02	.00	Totals
1.00	4.67%	1.31	1.23	1.58	1.38	10.16%
.16-.99	2.17	6.26	5.51	7.23	6.66	27.83
.07-.15	1.60	3.54	3.88	7.51	9.49	26.02
.01-.06	2.45	4.75	4.58	8.87	13.80	34.45
.00	0.10	0.38	0.23	0.40	0.42	1.53
Totals	11.00%	16.24	15.43	25.59	31.75	100.00%

A partial response rate of 1.00 represents a nonresponse, that is, an absence of data for a particular instrument; similarly, a partial response rate of .00 represents a complete vector of data from a respondent on a given instrument. From Table 7.1 it can be seen that 4.67% of the sample is lacking both a Base Year Student Questionnaire and a First Followup Questionnaire.[9] The minimum cell size for Table 7.1 was 19 respondents and the chi-square test was conducted with 16 degrees of freedom, obtaining $\chi^2 = 3,150.54$ ($p < .0001$). Signed chi-square contributions are displayed in Table 7.2.

Table 7.2

Signed Chi-square Contributions from Contingency
Test of Table 7.1

	Base Year Partial Response Rate				
First Followup Partial Response Rate	1.00	.06-.99	.03-.05	.01-.02	.00
1.00	2066	-13	-14	-74	-194
.16-.99	-47	122	63	--	-98
.07-.15	-101	-20	-1	20	33
.01-.06	-87	-23	-19	--	138
.00	-5	12	—	--	-2

That there is a relationship between tendency/degree of nonresponse during the Base Year and that of the First Followup there can be no doubt; however, fully two-thirds of the effect, as measured by the chi-square contributions, can be found in those sample members who neither responded during the Base Year nor during the First Followup. Such nonrespondents may simply not have been located during either wave of activity. Alternatively, they may have refused to participate.

Beyond such respondents, however, one can observe a cluster of excessive numbers of respondents located along the principal diagonal of the matrix, and corresponding lacks of respondents removed from the diagonal. The presence of such a pattern suggests a tendency for Base Year partial respondents to become partial respondents during the First Followup at about the same degree of partial response.

One might reasonably expect a Base Year refusal to also be a First Followup refusal; but that one might expect reliability in the degree to which a member of the Class of 1972 would be a partial respondent during both surveys was an unanticipated finding.[10]

Chapter 7: Notes

1. A more complete description of the structure of the sample and the modifications made to it can be found in:

   Levinsohn, Jay; Riccobono, John A.; and Moore, R. Paul, National Longitudinal Study of the High School Class of 1972: Base-Year and First Follow-up Data File Users Manual (Preliminary), Center for Educational Research and Evaluation, Research Triangle Institute, Research Triangle Park, NC, 27709, April 1975, pp. 1-13.

2. Data for the example are taken from:

   Levinsohn, Jay; Riccobono, John A.; and Moore, R. Paul, National Longitudinal Study of the High School Class of 1972: Base-Year and First Follow-up Data File Users Manual (Preliminary), Center for Educational Research and Evaluation, Research Triangle Institute, Research Triangle Park, NC, 27709, April 1975, Appendix J.

3. Using data from the Base-Year and First Follow-up Data File Users Manual (see Note 2 above), the proportions of nonresponse for such items was computed for the First Follow-up Questionnaire. The resulting data are presented in the "FFQ Item Defects Analysis" located in the Appendix to this report.

4. See Appendix A "FFQ Item Defects Analysis."

5. A list of items having nonresponse rates of 50 percent or more appears in Appendix A.

6. See Note 1.

7. As used in this section, the term "partial respondent" refers to a person who completes some, but not all, of the items he should answer.

8. The attempt was made to divide the variable into quintiles. Distributional characteristics of the statistic made this impossible.

9. Table 7.1 suggests that 1.53 percent of the First Follow-up Questionnaires were completed, in apparent contradiction to remarks made earlier in Section 7.1 of the report. The contradiction is apparent, not real, and arises from the resolution of branching errors concomitant to determining the percentage of items properly completed by particular respondents.

Chapter 7: Notes

10. Three additional analyses were also performed. It was considered likely that those who had not provided Student Questionnaires during the Base-Year Survey might be different in some way from the rest of the sample. The second analysis was subsequently conducted by chi-square after deleting the first column of Table 7.1. On similar grounds an analysis was performed after deleting the first row of Table 7.1, and a third analysis was conducted only on partial respondents, excluding nonrespondents (by deleting both the first row and column of Table 7.1). The pattern of effects did not change appreciably as a result of these additional analyses.

CHAPTER 8

WHERE DO WE GO FROM HERE?

8.1 Introduction

The National Longitudinal Study of the High School Class of 1972 is still in progress. Data for the Second Followup have now been made available and the Third Followup is nearly ready to begin. At least one additional followup is currently being considered. In what direction shall these last activities take the study? There are undoubtedly a very large number of organizations, researchers, and policy makers, each of whom could benefit by retrieving data from the finely wrought sample of the Class of 1972. The large number of such interests make certain that not all questions can be answered, especially since time and resources are finite.

In this chapter we shall make some suggestions regarding where the study should go by providing our own interpretation of the orginally defined purposes of the Longitudinal Studies of Educational Effects. In doing so, we accord full recognition to interpretations which might be forwarded by others and consider our interpretation to have but one advantage--it confines the scope of discussion.

We consider the general goal of the National Longitudinal Study of the High School Class of 1972 to be limited to three components: first, the establishment of educational outcome activities; second, the establishment of occupational (or career) outcome activities; and third, the establishment of relationships between the first two and earlier educational experiences.[1] This interpretation is, of course, somewhat simplistic, and perhaps, unduly confining of the scope of "acceptable" research activities.

Of course, the statistical problems of detecting, clarifying, and interpreting educational and occupational outcomes, and of relating these to former educational exposures or treatments would be impossible if ancillary data were not also gathered. Information regarding the community, home, and personal characteristics of the respondent must be known in order to temper observed effects and to compensate some effects by isolating related phenomena. The gathering of such ancillary data we incorporate within the scope of "acceptable" research activities.

We finally incorporate two additional lines of activity, both of which are likely to be considered "acceptable." First, a component of the overall activity should be devoted to increasing our understanding of how such studies as this should be done. The yield from such activities could then be taken as a return on investment which could be reinvested in future waves of NLS activity. The second line of activity is concerned with the resolutions of theoretical and methodological problems which appear during the course of study and which interfere with the work.

It is the purpose of this chapter to discuss, in a general way, our perceptions of the characteristics of the data collected during the Base Year and the First Followup, to make some suggestions for change, and to suggest a few areas which might merit additional activity.

8.2 Factors Worthy of Repetition

As far as comparative data allow us to judge, the sample of the Class of 1972 was well designed and well selected. Similar designs and techniques might be equally effective if applied to other cohorts selected for study. Respondent contact rates, both in the Base Year Survey and in the First Followup have also seemed to be acceptably high. Especially during the First Followup the task was difficult since high-mobility respondents had to be tracked down 18 months after high school graduation. Future activities will likely require equal or greater investments in order to retain acceptable contact rates with sample Class members.

Data were collected retrospectively for October 1972 and, for some respondents, in October 1973 by the First Followup Questionnaire. The technique involved asking respondents questions regarding their most recent (i.e., 1973) activities first, and then working back in time to 1972, to obtain similar information for the earlier period. This "anchoring" technique has frequently been used by others with success[2] and is probably worthy of use in the future, should the need arise.

The First Followup Questionnaire asked a number of questions regarding employment, including hours per week of work, weekly earnings, weeks worked in a given year, and annual personal and family income. At least one study[3] has indicated that labor force participation rates are insufficient to describe the economic activities of sample members. The current approach overcomes this problem and probably should be continued in future waves of activity. However, judging from response rates to financial items, it is possible that too much detail was asked of respondents. Some simplification might be possible.

The First Followup Questionnaire asked respondents to provide their marital status and number of children. Labor force participation rates of women have been shown to depend upon these variables and we can anticipate that, over the next few years, increasing numbers of women will withdraw from the labor force as children enter the home, and many women will later reenter the labor force as children mature. Future waves of NLS activity should, therefore, continue to obtain marital status and number of children, and probably should be extended to obtain ages of children.

A number of questions were asked during the First Followup regarding the educational activities of the Class. While the questions were numerous and sometimes complicated, and while there are some methodological concerns regarding the nature of certain educational activities, there are a couple of reasons for continuing these questions (or a similar set of questions) into future waves of NLS activity. The dominant reason, of course, is that the completeness of the items has allowed a reasonably complete portrayal of the educational activities of the Class, and it is likely desirable to retain this ability in the future. A second reason for continuing such items derives from the fact that the pattern of educational activities can be expected to change over time. Technological advances are changing the nature of work so that needs for occupational retraining, broadly based career management, and other continuing education needs can be expected to retain a portion of the Class in the educational domain. To evaluate the nature and impact of these educational activities will likely require a variety of questions similar to those in the First Follow-up Questionnaire.

8.3 Areas of Difficulty

Our analyses were most seriously constrained by two interrelated problems: high item nonresponse rates to critical items (especially financial items) and errors in skip patterns made by respondents in completing the questionnaire. These problems could likely be ameliorated by avoiding skip items to the degree possible and by shortening the questionnaire.

Certain analyses could not be performed since items useful to us were not replicated on the First Followup Questionnaire. Level of vocational aspirations, measured during the Base Year Survey, did not appear in the FFQ. Other critical items appeared in the FFQ, but were often presented in modified form. In several cases it was necessary to reformat items in order to enhance conformability over time. Having done so, analyses were frequently possible, but often a question was left regarding whether the effects observed were real or artifacts of item variation. This problem would be solved by exact replication of longitudinal items in future questionnaires.

8.4 Issues for Consideration

A number of questions and issues arose during the conduct of this study. One such issue relates to the construct of socioeconomic status. In Chapter 6 we indicated some concern for the composition of SES as it is typically measured through education, occupation, and income. The technical development there indicated that income was not as consistent a measure as were the other two; indeed, this seems reasonable from the viewpoint that the skilled trades, while not particularly enjoying the prestige and "status" of some occupations, nonetheless frequently command quite respectable wages. Dissatisfaction with the univariate construct of SES has caused the National Assessment of Educational Progress to employ two distinct measures, and while both are referred to as "SES," one reflects socioeducational status and the other, socioeconomic status. Others have also expressed disagreement with the existing concept of SES and the methods by which it is measured.[4] The issue raised by these concerns is: should the construct of socioeconomic status be reified, and if this be done, how should it be measured?

Job satisfaction represents an increasingly important concern for future National Longitudinal Study activities since there well may be educational sequelae which become manifest in behaviors measurable under the construct. Yet job satisfaction, as a construct, is also unsatisfactory. The original unidimensional conceptualization of job satisfaction has been challenged by the "motivator-hygiene" theory,[5] which itself is now being challenged by multidimensional approaches.[6] The direction of these challenges is toward a more complex formulation of job satisfaction. Is this parsimonious in light of our current understanding of job satisfaction? The results of this study reflect something similar to intrinsic satisfiers and extrinsic dissatisfiers, which might be construed to support the motivator-hygiene theory, but certain findings make this generalization risky. In particular, the relative magnitudes of job satisfaction for blacks and whites were found to differ according to the methods of analysis applied. Crude measures of job satisfaction indicated that whites were slightly more satisfied than blacks, but when effects were adjusted for SES and other factors the results were reversed. The composition of residual job satisfaction which remains after such adjustments might profitably be explored before generalizations are made regarding the applicability of available theories and, perhaps, the construct of job satisfaction should be reified.

Occupational mobility in the Class of 1972 has not yet been evaluated, and it is likely too early to do so now; however, in later waves it might be useful to evaluate the intergenerational occupational mobility experienced by subgroups of the Class, especially in light of their secondary educational experiences. At least one measure, proposed by Tumin and Feldman,[7] is available for the purpose.

We indicated that having steady employment was more highly valued by those from low socioeconomic backgrounds. At least one study[8] has indicated that the poor not only earn lower incomes, but experience more unstable incomes as well. That same study found certain jobs, characterized by somewhat lowered hourly wage rates, but which enabled workers to enhance their earnings by working greater numbers of hours, were more available to whites than to blacks.[9] The application of First Followup data to verify these findings would probably be premature, but data from later waves might be appropriate. In attempting to verify one or both of those findings, it might be useful to consider definitions of poverty status other than those traditionally used. At least one alternative is available.[10]

Health problems were not a serious factor in the educational and vocational activities of the Class of 1972 at the time of the First Followup. In future waves, however, some increase in rates of illness and disability might be expected. The measurement of health conditions may be more difficult than generally believed since there is some evidence to suggest that cultural response biases are present in traditional measures.[11] This might be given preliminary exploration prior to serious attempts to evaluate the impact of health conditions on subgroups of the Class.

We have earlier noted that the illegitimate birth rate was high (12% of registered births in 1972) at the time the Class of 1972 graduated.

During the Base Year Survey a number of public schools were found throughout the United States which had been set aside for pregnant high school girls, which suggests that unplanned pregnancies might occur with disproportionate frequency in the very young women of childbearing age. The impact of unplanned pregnancies upon plans for college, work, and the future may well be dramatic and we suggest that the incidence rate be measured. Although this is a delicate undertaking, methodology exists which can provide a reasonably precise and inoffensive approach. Specifically, we refer to the "randomized response" technique.[12]

We also remarked that the incidence of divorce was probably higher in the original homes of 1972 Class members than in any earlier cohort. The effects of divorce upon children, and the later impact of childrearage in single parent homes are known to result in systematic psychological changes, and may also represent an additional factor mediating the educational and economic behaviors of the Class. We recommend that the factor of divorce in the early homes of respondents be examined in future waves of the study.

The First Followup Questionnaire asked respondents to indicate whether they had participated in a variety of nontraditional educational activities after graduating from high school. By far the greatest incidence of such training was characterized as "on-the-job training programs," but the high frequency of such responses may have resulted from a misunderstanding on the part of the respondents; specifically, it is likely that the respondents failed to properly distinguish an organized on-the-job training program from merely being shown how to do the job. It may also be the case that employers further clouded this issue by referring to trial or indoctrination periods as on-the-job training programs when, in fact, no organized training program existed.

Related is the difficulty of distinguishing between vocational and other forms of education, a difficulty which is complicated by the fact that what is vocational for one respondent might not be for another. Yet, the distinction is important since earlier studies have associated economic returns to postsecondary vocational education with high school curriculum. To date, the respondents have been required to effect the separation, but this presents a problem as regards the respondents' ability to know what is, and what is not, vocational education, and additionally may bring about a halo effect--in the Base Year Reevaluation[13] it was observed that respondents classified by their schools in the vocational or general curriculum frequently classified themselves as academic. It would seem that some effort to objectify the distinction between vocational and other forms of education, and to distinguish on-the-job training programs from less formal procedures might be profitable.

A particulary important problem was illuminated by our analyses which indicated the primacy of certain personal needs and values which distinguished schooling from working behaviors among the respondents. In particular, strong associations were found between the desire or need to make money, given as a reason for not engaging in formal postsecondary education, and with the desire for such education, given as a reason for not working. Other analyses suggested that the propensities for postsecondary work or school were present early in high school and could be related to family and environmental characteristics. It was also noted that vocational students who, during high school, planned a 4-year university education had a high failure rate in their plans.

These suggest an explanatory mechanism which first imbues the student with certain characteristics (resulting from home, environment, and early education), which tend to direct the student into certain secondary curricula. While it is likely that certain propensities are already present to force the postsecondary work/school decision, the effect of curriculum likely reinforces those propensities, or else produces them, so that, *ceteris paribus*, the decision has effectively been made by the time of high school graduation. At this point, powerful real-world forces may dictate that the decision be modified.[14]

Presuming this model to be sufficient for the present, the mechanism may be interpreted as a sequence of chanelling forces which predispose the respondent toward a particular kind of postsecondary activity up to graduation, at which time the respondent's predispositions may or may not be mediated by prevailing circumstances. The interesting aspect of this formulation is that it enables one to focus upon those individuals who break away from the mold at some time during this process. Vocational high school students typically do not seek 4-year college educations; those who do have "broken away from the mold." As we have seen they tend not to be successful.

To carry the argument a final step, one who deviates from the typical pattern emits a behavior distinct from that stereotyped by the normative group. If we may consider that this behavior begins, or that nonnormative attitude formation begins, at some point in time (with later observable behavior), the time of origin may represent a time of "catastrophe," following which normative and other forces may be brought to bear against the deviant. Conceptualized in this fashion, it is possible that a relatively new methodological tool, catastrophe theory,[15] may represent a statistical medium for the study of the decision process (and its precursors) which results in various forms of educational and vocational outcomes. Specifically, such an approach may help to understand who deviates from the pattern, and why, and what the sequelae of deviation are. By contrast, an understanding of these phenomena may improve our understanding of those who do not deviate, but flow along the channels suggested by the model into essentially predetermined postsecondary activities.

Two additional issues are worth mention. First, in Chapter 7, it was indicated that there were weaknesses in a particular questionnaire item format; that in which the respondent was requested to provide a binary response to each of a series of subitems. It was noted that first-mentioned subitems enjoyed higher response rates than later-mentioned ones. Such a format is especially advantageous in lengthy questionnaires since it allows a large number of similar items to be presented compactly to the respondent. However, the decline in response rates to successive subitems limits its utility. It might be reasonable to attempt modifications of the format in order to alleviate this problem.

Finally, in Chapter 4, a series of dimensions of postsecondary outcomes, educational and vocational, were developed. If these dimensions can be verified and their composition clarified, they should suggest parsimonious methods of measuring the important components of postsecondary outcomes. Having accomplished this, it should then be possible to construct measures of postsecondary outcomes with much greater parsimony than has been possible heretofore. Finally, having accomplished that, it may be possible to explore more thoroughly antecedents which can be found related to the important dimensions of postsecondary activity.

Chapter 8: Notes

1. Compare with quote on page 1.1

2. See, for example:

   Flanagan, John C., and Russ-Eft, Darlene, An Empirical Study to Aid in Formulating Educational Goals, American Institutes for Research, Palo Alto, CA 94302, June 30, 1975, p. 29.

3. Shea, John R., et al., Years for Decision: A Longitudinal Study of the Educational and Labor Market Experience of Young Women, Vol. 1, February 1971, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, p. 60.

4. Creech, F. Reid, "A factor analysis of occupational description scales based on Form VI Trinidanian males," Unpublished paper presented to American Association for Public Opinion Research, May 1974.

5. An explanation of the motivator-hygiene theory of job satisfaction appears in:

   Whitsett, David A., and Winslow, Erik K., "An analysis of studies critical of the motivator-hygiene theory," in Personnel Psychology, Vol. 20, 1967, pp. 391-415.

6. Arguments against the motivator-hygiene theory include the following:

   Dunnette, Marvin D., Campbell, John P., and Hakel, Milton D., "Factors contributing to job satisfaction and job dissatisfaction in six occupational groups," in Organizational Behavior and Human Performance, Vol. 2, 1967, pp. 143-174.

   Bloom, Robert, and Barry, John R., "Determinants of work attitudes among Negroes," in Journal of Applied Psychology, No. 3, 1967, pp. 291-294.

   Wood, Donald A., and Lebold, William K., "The multivariate nature of professional job satisfaction," in Personnel Psychology, Vol. 23, 1970, pp. 173-189.

7. Tumin, Melvin M., and Feldman, Arnold, "Theory and measurement of occupational mobility," in American Sociological Review, Vol. 22, 1957, pp. 281-288.

   An inadvertent error in formulation in the above paper was later corrected in:

   Geschwender, James A., "Theory and measurement of occupational mobility: A re-examination," in American Sociological Review, Vol. 26, 1961, pp. 451-452.

Chapter 8: Notes

8. Morgan, James N., et al., Five Thousand American Families: Patterns of Economic Progress, Vol. 1, Survey Research Center, Institute for Social Research, University of Michigan, 1974, p. 292.

9. Morgan, James N., et al., Five Thousand American Families: Patterns of Economic Progress, Vol. 1, Survey Research Center, Institute for Social Research, University of Michigan, 1974, p. 237.

10. Sen, Amartya, "Poverty: An ordinal approach to measurement," in Econometrica, Vol. 44, No. 2, 1976, pp. 219-231.

11. Parnes, Herbert S., et al., Career Thresholds: A Longitudinal Study of the Educational and Labor Market Experience of Male Youth 14-24 Years of Age, Vol. 1, Center for Human Resource Research, The Ohio State University, Columbus, Ohio, February 1969, p. 80.

12. Sen, Pranab Kumar, "On unbiased estimation for randomized response models," in Journal of the American Statistical Association, Vol. 69, No. 348, 1974, pp. 997-1001.

13. Creech, F. Reid, A Vocational Re-evaluation of the Base Year Survey of the High School Class of 1972, Educational Testing Service, Princeton, NJ 08540, 1974.

14. Adverse economic conditions may not always force the respondent into the labor market. There have been suggestions that some may have gone to school when suitable employment could not be obtained.

15. Zeeman, E. C., "Catastrophe theory," in Scientific American, Vol. 234, No. 4, April 1976, pp. 65-83.

APPENDIX A

FFQ Item Defects Analysis

FFQ Item Defects Analysis

Each coded item of the FFQ was subjected to an analysis of the rates of partial responses (responding to part, but not all of an item), don't know responses, out-of-range responses, multiple responses, refusals, and blank responses (item nonresponse). Only partial and blank responses were appreciable, and partial responses were relatively insignificant. For example, only items 1G and 16F had partial response rates in excess of .32 (i.e., more than 32% of those who should have responded to all components of an item failed to do so, while having made some response to the item).

Nonresponses (blank responses) were more serious. The items which should have been answered, but which were not answered by more than 32 percent of the respondents are presented in Table A-1.

Table A-1

Items Having Nonresponse rates of 33 Percent or More

7B,C
8A,B
11B-H
13C
29B
29BC-BR
31A-K
32B,C
33AA,AB
35A-35I
36A-C
37
38A-K
40B, CA, CB, DA, DB, DC
41CB, CC
43B
44BB-BD
46BA-BG
47BA,BB
47CA,CB,EA,EB,FA,FB
59L
62A-L
63A-H
66C,E
69A
74B, C
82DA, DB, DC
83B,C
83DA, DB, DC
84AA
84B, C
84DA, DB, DC

A few items experienced nonresponse rates in excess of 50 percent. These were as follows:

FFQ 8B--the number of children R has

FFQ 11 --asking for income of self and spouse (but the response rate to parts A and C are better than 50%)

FFQ 31, 35, and 38--asking for reasons respondents changed schools, area of training, or withdrew from school

FFQ 40b, 40c, 40d--asking about attendance at other schools at other times

FFQ 41c--asking for number of semester hours or other kinds of hours credit earned since high school

FFQ 43 --asking for specification of earned certifications and degrees

FFQ 44b--asking about participation in formal counseling, tutoring, and remedial courses

FFQ 46b, 47--school finances, except for selected parts of the records

FFQ 66, 74--date drafted, date separated from armed forces

FFQ 76 --"other" response to item asking for post-military service plans

FFQ 82d, 83d, 84d--asking for approximate values of financial aid offered during first academic year at school

FFQ 84b--whether respondent was accepted by 3rd choice school, and whether he attended

FFQ 84c--whether respondent applied for financial aid at third choice school

APPENDIX B

First Follow-Up Questionnaire, Form B

O.M.B. No. 51-S-73030
APPROVAL EXPIRES 9-1-74

OPERATION FOLLOW-UP

NATIONAL LONGITUDINAL STUDY OF THE HIGH SCHOOL CLASS OF 1972

First Follow-Up Questionnaire

Form B

Prepared for the
UNITED STATES OFFICE OF EDUCATION
BY RESEARCH TRIANGLE INSTITUTE • RESEARCH TRIANGLE PARK, NORTH CAROLINA
FALL 1973

OE FORM 2367, 9/73
MRC 3400

Social Security Number

☐☐☐ ☐☐ ☐☐☐☐ (omitted)

DIRECTIONS

- This questionnaire is divided into sections of questions. All students are asked to start by answering questions in the sections lettered A, B, and C. Then you will be asked to follow the directions to answer questions in the sections that apply to *your* particular plans for the year after you leave high school.
- Read carefully *all* directions for each question you answer. It is important that you follow these directions carefully.
- When you are asked to circle a number, please make a heavy black circle. Here is an example.

What grade are you in?	**(Circle one.)**
Grade 9	1
Grade 10	2
Grade 11	3
Grade 12	[✓ 4]

- Circle as many numbers as the directions indicate for each question you answer.
- Completely erase any answers you wish to change.
- When you have completed the questionnaire, put it in the envelope that has been given to you and seal the envelope. No one at your school will see or read your answers.

This questionnaire is not a test. You may omit any question that you or your parents would consider objectionable.

Section A — General Information

1. **What are you doing now?**

(Circle one number on each line.)

		Applies to me	Does not apply to me
FFUQ1A	Working for pay at a full-time or part-time job	1	2
FFUQ1B	Taking vocational or technical courses at any kind of school or college (for example, vocational, trade, business, or other career training school)	1	2
FFUQ1C	Taking academic courses at a two- or four-year college	1	2
FFUQ1D	On active duty in the Armed Forces (or service academy)	1	2
FFUQ1E	Homemaker	1	2
FFUQ1F	Temporary lay-off from work, looking for work, or waiting to report to work	1	2
FFUQ1G	Other (please describe: ______________)	1	2

FFUQ2 2. **Did you complete high school?**

(Circle one.)

No, still in high school .... 1 —(SKIP to q. 4)
No, left high school without completing 2
Yes, graduated 3
Yes, left high school without graduating but have since passed a high school equivalency test, for example, the GED .. 4

3. **When did you leave or graduate from the last high school that you attended?**

Date left: FFUQ3A (month) FFUQ3B (year)

FACTS ABOUT YOU IN OCTOBER 1973

FFUQ4 4. **With whom did you live, as of the first week of October 1973?**

(Circle one.)

By myself 1
Parents 2
With husband or wife 3
With other relatives 4
With person(s) not related to me 5

FFUQ5 5. **How would you describe your living quarters, as of the first week of October 1973?**

(Circle one.)

Private house or apartment 1
Dormitory or apartment operated by a school or college 2
Fraternity or sorority house 3
Rooming or boarding house 4
Other (please describe: ______________) 5

FFUQ6A **6a. Which of the following best describes the location of the place where you lived in the first week of October 1973?**

(Circle one.)

In a rural or farming community	1
In a small city or town of fewer than 50,000 people that is not a suburb of a larger place	2
In a medium-sized city (50,000-100,000 people)	3
In a suburb of a medium-sized city	4
In a large city (100,000-500,000 people)	5
In a suburb of a large city	6
In a very large city (over 500,000 people)	7
In a suburb of a very large city	8

FFUQ6B **6b. How far is this from the place where you lived as a senior in high school?**

(Circle one.)

Same place I lived in when I was a senior in high school	1
Less than 50 miles	2
50 to 99 miles	3
100 to 199 miles	4
200 to 499 miles	5
500 miles or more	6

FFUQ7A **7a. What was your marital status, as of the first week of October 1973?**

(Circle one.)

Never married, but plan to be married within the next 12 months	1	*(SKIP to q. 9)*
Never married, and don't plan to be married within the next 12 months	2	
Married	3	
Separated, divorced, or widowed	4	

7b. When were you first married? FFUQ7B **(month)** FFUQ7C **(year)**

8. Did you have any children as of the first week of October 1973?

FFUQ8A	No	1
	Yes (How many? FFUQ8B)	2

FFUQ9 **9. As of the first week of October 1973, were you dependent upon your parents or any other friends or relatives for more than one half of your financial support?**

Yes	1
No	2

FFUQ10 **10. As of the first week of October 1973, how many persons (not counting yourself) were dependent upon YOU for more than one half of their financial support?**

(Circle one.)

None	0
One	1
Two	2
Three or more	3

'Q11 **11. What is the best estimate of your income before taxes for all of 1973? If you are married, please estimate your husband's or wife's income in the second column provided. Do not include loans or gifts.**

	Your Own Income	Your Spouse's Income
TOTAL INCOME	$_______	$_______
From wages, salaries, commissions, and net income from business or farm	$_______	$_______
Scholarships, fellowships	$_______	$_______
Other (for example, interest, rental property income, public assistance, and unemployment compensation)	$_______	$_______

OPINIONS ABOUT YOURSELF AND THE FUTURE

FFUQ12 **12. How far in school would you like to get?**

(Circle one.)

High school only		1
Vocational, trade, or business school	Less than two years	2
	Two years or more	3
College program	Some college (including two-year degree)	4
	Finish college (four- or five-year degree)	5
	Master's degree or equivalent	6
	Ph.D., M.D., or equivalent	7

FFUQ13A **13a. If no other funds were available (no scholarships, parental aid, or job), how much money would you be willing to borrow to get this schooling?**

(Circle one.)

None	0
Less than $500	1
$500 to $999	2
$1,000 to $1,999	3
$2,000 to $3,999	4
$4,000 to $4,999	5
$5,000 to $6,000	6
More than $6,000 (please specify amount ______________)	7

FFUQ13B **13b. Has anyone discussed with you the terms and conditions necessary to borrow money for this purpose?**

No	1 — *(SKIP to q. 14)* *Next page* ⟶
Yes	2

FFUQ13C **13c. As a result, was there any change in your borrowing plans?**

(Circle one.)

No, I had no borrowing plans	1
No, there was no change in my borrowing plans	2
Yes, I decided to borrow more than I planned	3
Yes, I decided to borrow less than I planned	4
Yes, I decided not to borrow for this purpose	5

FFUQ14 14. **As things stand now, how far in school do you think you actually will get?**

(Circle one.)

High school only		1
Vocational, trade, or business school	Less than two years	2
	Two years or more	3
College program	Some college (including two-year degree)	4
	Finish college (four- or five-year degree)	5
	Master's degree or equivalent	6
	Ph.D., M.D., or equivalent	7

15. **How do you feel about each of the following statements?**

(Circle one number on each line.)

		Agree Strongly	Agree	Disagree	Disagree Strongly	No Opinion
FFUQ15A	I take a positive attitude toward myself	1	2	3	4	5
FFUQ15B	Good luck is more important than hard work for success	1	2	3	4	5
FFUQ15C	I feel I am a person of worth, on an equal plane with others	1	2	3	4	5
FFUQ15D	I am able to do things as well as most other people	1	2	3	4	5
FFUQ15E	Every time I try to get ahead, something or somebody stops me	1	2	3	4	5
FFUQ15F	Planning only makes a person unhappy since plans hardly ever work out anyway	1	2	3	4	5
FFUQ15G	People who accept their condition in life are happier than those who try to change things	1	2	3	4	5
FFUQ15H	On the whole, I'm satisfied with myself	1	2	3	4	5

16. **What do you expect to be doing in October 1974?**

(Circle one number on each line.)

		Expect to be doing	Do not expect to be doing
FFUQ16A	Working for pay at a full-time or part-time job	1	2
FFUQ16B	Taking vocational or technical courses at any kind of school or college (for example, vocational, trade, business, or other career training school)	1	2
FFUQ16C	Taking academic courses at a two- or four-year college	1	2
FFUQ16D	On active duty in the Armed Forces (or service academy)	1	2
FFUQ16E	Homemaker	1	2
FFUQ16F	Other (please describe:________________________)	1	2

FFUQ17 17. **Do you plan to have your first child (or another child) before October 1974?**

(Circle one.)

Yes	1
No	2
Don't know	3

FFUQ18 **18. How many children altogether do you eventually expect to have?**

	(Circle one.)
None	0
One	1
Two	2
Three	3
Four or more	4

FFUQ19 **19. What kind of work will you be doing when you are 30 years old? (Circle the one that comes closest to what you expect to be doing.)**

CLERICAL such as bank teller, bookkeeper, secretary, typist, mail carrier, ticket agent	01
CRAFTSMAN such as baker, automobile mechanic, machinist, painter, plumber, telephone installer, carpenter	02
FARMER, FARM MANAGER	03
HOMEMAKER OR HOUSEWIFE ONLY	04
LABORER such as construction worker, car washer, sanitary worker, farm laborer	05
MANAGER, ADMINISTRATOR such as sales manager, office manager, school administrator, buyer, restaurant manager, government official	06
MILITARY such as career officer, enlisted man or woman in the Armed Forces	07
OPERATIVE such as meat cutter, assembler, machine operator, welder, taxicab, bus, or truck driver, gas station attendant	08
PROFESSIONAL such as accountant, artist, registered nurse, engineer, librarian, writer, social worker, actor, actress, athlete, politician, but not including public school teacher	09
PROFESSIONAL such as clergyman, dentist, physician, lawyer, scientist, college teacher	10
PROPRIETOR OR OWNER such as owner of a small business, contractor, restaurant owner	11
PROTECTIVE SERVICE such as detective, policeman or guard, sheriff, fireman	12
SALES such as salesman, sales clerk, advertising or insurance agent, real estate broker	13
SCHOOL TEACHER such as elementary or secondary	14
SERVICE such as barber, beautician, practical nurse, private household worker, janitor, waiter	15
TECHNICAL such as draftsman, medical or dental technician, computer programmer	16
NOT WORKING	17

20. How important is each of the following to you in your life? **(Circle one number on each line.)**

		Not Important	Somewhat Important	Very Important
FFUQ20A	Being successful in my line of work	1	2	3
FFUQ20B	Finding the right person to marry and having a happy family life	1	2	3
FFUQ20C	Having lots of money	1	2	3
FFUQ20D	Having strong friendships	1	2	3
FFUQ20E	Being able to find steady work	1	2	3
FFUQ20F	Being a leader in my community	1	2	3
FFUQ20G	Being able to give my children better opportunities than I've had	1	2	3
FFUQ20H	Living close to parents and relatives	1	2	3
FFUQ20I	Getting away from this area of the country	1	2	3
FFUQ20J	Working to correct social and economic inequalities	1	2	3
FFUQ20K	Having leisure time to enjoy my own interests	1	2	3

Section B — Education and Training

This section asks information about your training and education since leaving high school. First we would like to know....

FFUQ21 **21. Between the time you left high school and October 1973, have you participated in any program such as on-the-job training, registered apprenticeships, manpower training, personal enrichment, or correspondence courses? Do not include Armed Forces training programs, or regular school and college programs.**

No .... 1 — *(SKIP to q. 23) Next page* —

Yes 2

22a. What type of training program(s) have you participated in?

(Circle one number on each line.)

		Yes	**No**
FFUQ22AA	On-the-job training (a program of instruction during normal working hours)	1	2
FFUQ22AB	Formal Registered Apprenticeship (your State or Labor Union)	1	2
FFUQ22AC	Manpower Development and Training (MDTA)	1	2
FFUQ22AD	Work Incentive (WIN)	1	2
FFUQ22AE	Neighborhood Youth Corps (NYC)	1	2
FFUQ22AF	Other manpower program (please specify: ______________________)	1	2
FFUQ22AG	Correspondence course(s)	1	2
FFUQ22AH	Non-credit courses for personal enrichment	1	2
FFUQ22AI	Other (please specify: ______________________)	1	2

FFUQ22B **22b. What type of work were you being trained for or learning about? If you have participated in more than one program, answer for the one in which you spent the most time. (Examples: plumbing, typing, auto mechanic work, photography, sales, etc.)**

(Write in): ______________________________

FFUQ22C **22c. How long does (or did) this program last?**

(Circle one.)

Less than one month 1

One to five months 2

Six to eleven months 3

One year or more 4

FFUQ22D **22d. Have you completed this program?**

(Circle one.)

Yes 1

No, left without completing 2

No, still enrolled 3

FFUQ22E **22e. Have you used this training on any job?**

Yes 1

No 2

FFUQ23 **23. Since leaving high school, have you attended any school like a college or university, service academy, business school, trade school, technical institute, vocational school, community college, and so forth?**

Yes ....1 — *(SKIP to q. 25)*
No..2

24. Here are some reasons others have given for NOT continuing their formal education after leaving high school. Which of these reasons, if any, apply to you?

(Circle one number on each line.)

		Applies to me	Does not apply to me
FFUQ24A	Needed to earn money to support my family	1	2
FFUQ24B	Needed to earn money before I could pay for further education	1	2
FFUQ24C	Could not afford a four-year college or university education	1	2
FFUQ24D	Failed to find out in time about admission requirements, cost of attending, availability of a school in the area, etc.	1	2
FFUQ24E	Poor high school grades or poor scores on college admission tests	1	2
FFUQ24F	Lack of high school credits required for college entrance	1	2
FFUQ24G	Applied to one or more schools, but was not accepted	1	2
FFUQ24H	Lack of a school within commuting distance of my home	1	2
FFUQ24I	Discouraged from continuing by teachers or counselor	1	2
FFUQ24J	Discouraged from continuing by parents	1	2
FFUQ24K	Wanted to enter Armed Forces	1	2
FFUQ24L	My plans did not require more education	1	2
FFUQ24M	Planned to be married	1	2
FFUQ24N	School is not for me; I don't like it	1	2
FFUQ24O	Offered a job I wanted	1	2
FFUQ24P	Wanted to earn money for myself	1	2
FFUQ24Q	Wanted practical experience before going on to school	1	2

(SKIP to Section C, page 15)

SCHOOL ATTENDANCE IN OCTOBER 1973

FFUQ25 **25. Were you taking classes or courses at any school during the first week of October 1973?**

No..1 — *(SKIP to q. 29a, page 9)*
Yes 2

26a. What is the exact name and location of the school you were attending in the first week of October 1973? (Please print and do not abbreviate.)

(omitted) School Name: ______________________________

City: ______________________________ State: ______________

FFUQ26B **26b. What kind of school is this?** **(Circle one.)**

Vocational, trade, business or other career training school 1
Junior or community college (two-year)..........................2
Four-year college or university 3
Other (please describe: ______________________________) 4

FFUQ26C **26c. Is this school public or private?**

Public 1
Private 2

27a. When did you first attend this school? FFUQ27AA **(month)** FFUQ27AB **(year)**

FFUQ27B **27b. During the first week of October 1973, were you classified by this school as a full-time student?**

Yes	1
No	2

27c. About how many hours a week did your classes meet in the subjects or courses in which you were enrolled at that time? Include time in lectures, shop, laboratories, etc.

FFUQ27C Hours per week

FFUQ27D **27d. At that time were you classified by your school as a freshman or sophomore?**

(Circle one.)

My school doesn't classify students this way	1
Freshman (first-year student)	2
Sophomore (second-year student)	3
Other classification (specify: ______________________)	4

28a. As of the first week of October 1973, what was your actual or intended field of study or training area (for example, practical nurse, machinist, beautician, civil engineering, accounting, psychology, home economics, etc.) Please name the specific field or area:

(Write in): FFUQ28A

28b. Is this in an academic field or vocational area? Please select below the academic field OR vocational area which comes closest to this field or area.

FFUQ28B

(Circle only one academic field OR one vocational area.)

ACADEMIC FIELDS (typically leading to at least a Bachelor's degree)	
Biological Sciences (zoology, physiology, anatomy, etc.)	01
Business (accounting, marketing, personnel management, etc.)	02
Education (elementary, special, physical, etc.)	03
Engineering (civil, electrical, mechanical, etc.)	04
Humanities and Fine Arts (music, religion, English, etc.)	05
Physical Sciences and Mathematics (physics, geology, chemistry, etc.)	06
Social Sciences (psychology, history, economics, sociology, etc.)	07
Other academic fields (agriculture, home economics, nursing, etc.)	08
An academic field, but undecided (circle here and SKIP to q. 29)	09

VOCATIONAL AREAS (typically not leading to a Bachelor's degree)	
Office and Clerical (bookkeeping, stenography, commercial art, general office, etc.)	10
Computer Technology (keypunch operator, programming, computer operations, etc.)	11
Mechanical and Engineering Technology (automotive mechanic, machinist, construction, drafting, electronics, etc.)	12
Health Services (lab technician, occupational therapy, practical nursing, etc.)	13
Public Services (police science, food service, recreation, beautician, etc.)	14
Other vocational areas (agriculture, home economics, etc.)	15
A vocational area, but undecided (circle here and SKIP to q. 29)	16

FFUQ28C **28c. How long does it normally take to complete this program?**

(Circle one.)

Less than three months	1
Three to five months	2
Six to eleven months	3
One to two years	4
More than two years	5

SCHOOL ATTENDANCE IN OCTOBER 1972

F 29A **29a. Now please think back a year to the Fall of 1972. Were you taking classes or courses at any school during the month of October 1972?**

Yes .... 1 —(SKIP to q. 30)

No 2

29b. Here are some reasons others have given for NOT continuing their formal education right after leaving high school. Which of these reasons apply to you?

(Circle one number on each line.)

		Applies to me	Does not apply to me
FFUQ29BA	Needed to earn money to support my family	1	2
FFUQ29BB	Needed to earn money before I could pay for further education	1	2
FFUQ29BC	Could not afford a four-year college or university education	1	2
FFUQ29BD	Failed to find out in time about admission requirements, cost of attending, availability of a school in the area, etc.	1	2
FFUQ29BE	Poor high school grades or poor scores on college admission tests	1	2
FFUQ29BF	Lack of high school credits required for college entrance	1	2
FFUQ29BG	Applied to one or more schools, but was not accepted	1	2
FFUQ29BH	Lack of a school within commuting distance of my home	1	2
FFUQ29BI	Discouraged from continuing by teachers or counselor	1	2
FFUQ29BJ	Discouraged from continuing by parents	1	2
FFUQ29BK	Wanted to enter Armed Forces	1	2
FFUQ29BL	My plans did not require more education	1	2
FFUQ29BM	Wanted to take a break	1	2
FFUQ29BN	Planned to be married	1	2
FFUQ29BO	School is not for me; I don't like it	1	2
FF 9BP	Offered a job I wanted	1	2
FFUQ29BQ	Wanted to earn money for myself	1	2
FFUQ29BR	Wanted practical experience before going on to school	1	2

SKIP to q. 39, page 12 →

FUQ30 **30. Was the school you attended in October 1972 the same school you attended in the first week of October 1973?** **(Circle one.)**

Yes .... 1 —(SKIP to q. 33b) } Next page →

No, not enrolled in October 1973 .... 2 —(SKIP to q. 32a) }

No, enrolled in different school 3

31. What were your reasons for changing schools? **(Circle one number on each line.)**

		Applies to me	Does not apply to me
FUQ31A	My interest changed, and my former school did not offer the course of study I wanted	1	2
FUQ31B	Wanted to attend a less expensive school	1	2
FUQ31C	My grades were too low to continue at the former school	1	2
FUQ31D	Wanted to be at a smaller school	1	2
FUQ31E	Wanted to be at a larger school	1	2
FUQ31F	Wanted to attend school closer to home	1	2
FUQ31G	Wanted to attend a school farther away from home	1	2
FUQ31H	Wanted to attend a school that would give me better career opportunities	1	2
FUQ31I	Wanted to attend a school where I could feel more like I belonged	1	2
31J	Wanted to attend a school where I could maximize my intellectual and personal development	1	2
UQ31K	More group or social activities of interest	1	2

32a. What is the exact name and location of the school you were attending in the month of October 1972? (Please print and do not abbreviate.)

(omitted) School Name: ______________________________

City: ______________________ State: __________

FFUQ32B **32b. What kind of school is this?**

(Circle one.)

Vocational, trade, business or other career training school 1
Junior or community college (two-year) 2
Four-year college or university 3
Other (please describe: ______________________) 4

FFUQ32C **32c. Is this school public or private?**

Public 1
Private 2

33a. When did you first attend this school? FFUQ33AA **(month)** FFUQ33AB **(year)**

FFUQ33B **33b. During October 1972, were you classified by this school as a full-time student?**

Yes 1
No 2

33c. About how many hours a week did your classes meet in the subjects or courses in which you were enrolled at that time? Include time in lectures, shop, laboratories, etc.

FFUQ33C Hours per week

FFUQ34 **34. Was your field of study or training area in October 1972 the same as you indicated for the first week of October 1973?**

(Circle one.)

Yes ...... 1 — *(SKIP to q. 39, page 12)* →
No, wasn't enrolled in October 1973 ...... 2 } — *(SKIP to q. 36a) Next page*
No, none indicated for October 1973 ...... 3 }
No, different than in October 1973 4

35. Listed below are some reasons why students change fields or training areas. What were the reasons in your situation?

(Circle one number on each line.)

		Applies to me	**Does not apply to me**
FFUQ35A	Courses more difficult than I expected	1	2
FFUQ35B	Met people with new ideas	1	2
FFUQ35C	Poor advice on original choice	1	2
FFUQ35D	Lack of information on jobs related to original choice	1	2
FFUQ35E	Content of courses different from what I expected	1	2
FFUQ35F	New information about other fields of study or training areas	1	2
FFUQ35G	Interest aroused by courses	1	2
FFUQ35H	More jobs available for graduates in the field I changed to	1	2
FFUQ35I	Other (please specify: ______________________)	1	2

36a. **In October 1972, what was your actual or intended field of study or training area (for example, practical nursing, machinist, beautician, civil engineering, accounting, psychology, home economics, etc.)? Please name the specific field or area:**

(Write in): FFUQ36A ____________________

FFUQ36B **36b.** **Is this in an academic field or vocational area? Please select below the academic field OR vocational area which comes closest to this field or area.**

(Circle only one academic field OR vocational area.)

ACADEMIC FIELDS (typically leading to at least a Bachelor's degree)	
Biological Sciences (zoology, physiology, anatomy, etc.)	01
Business (accounting, marketing, personnel management, etc.	02
Education (elementary, special, physical, etc.)	03
Engineering (civil, electrical, mechanical, etc.)	04
Humanities and Fine Arts (music, religion, English, etc.)	05
Physical Sciences and Mathematics (physics, geology, chemistry, etc.)	06
Social Sciences (psychology, history, economics, sociology, etc.)	07
Other academic fields (agriculture, home economics, nursing, etc.)	08
An academic field, but undecided (circle here and SKIP to q. 37)	09

VOCATIONAL AREAS (typically not leading to a Bachelor's degree)	
Office and Clerical (bookkeeping, stenography, commercial art, general office, etc.)	10
Computer Technology (keypunch operator, programming, computer operations, etc.)	11
Mechanical and Engineering Technology (automotive mechanic, machinist, drafting, construction, electronics, etc.)	12
Health Services (lab technician, occupational therapy, practical nursing, etc.)	13
Public Services (police science, food service, recreation, beautician, etc.)	14
Other vocational areas (agriculture, home economics, etc.)	15
A vocational area, but undecided (circle here and SKIP to q. 37)	16

FFUQ36C **36c.** **How long does it normally take to complete this program?**

(Circle one.)

Less than three months	1
Three to five months	2
Six to eleven months	3
One to two years	4
More than two years	5

FFUQ37 **37.** **Did you withdraw altogether from this school prior to completing your training or program of studies?**

No	1 — *(SKIP to q. 39) Next page* ⟶
Yes	2

38. **What were your reasons for withdrawing altogether?** **(Circle one number on each line.)**

		Applies to me	Does not apply to me
FFUQ38A	Became ill	1	2
FFUQ38B	Had financial difficulties	1	2
FFUQ38C	Family emergency	1	2
FFUQ38D	Was offered a good job	1	2
FFUQ38E	Got married or planned to get married	1	2
FFUQ38F	School work was not relevant to the real world	1	2
FFUQ38G	Wanted to get practical experience	1	2
FFUQ38H	Courses were too hard	1	2
FFUQ38I	Failing or not doing as well as I wanted	1	2
FFUQ38J	Became homesick	1	2
FFUQ38K	Other (please describe: ____________________)	1	2

ATTENDANCE AT OTHER SCHOOLS AT OTHER TIMES

FFUQ39 **39. Besides any school(s) you may already have reported in this section of the questionnaire, have you attended any other schools since leaving high school? Include schools like colleges and universities, service academies, business schools, trade schools, technical institutes, vocational schools, community colleges, and so forth.**

No .... 1 — *(SKIP to q. 41a)*
Yes 2

40a. What is the exact name and location of this school? Please print and do not abbreviate. (If you attended more than one other school, then give the one that you attended the longest.)

(omitted)

School Name: ____________________
City: ____________________ State: __________

FFUQ40B **40b. What kind of school is this?** **(Circle one.)**

Vocational, trade, business or other career training school 1
Junior or community college (two-year) 2
Four-year college or university 3
Other (please describe: ____________________) 4

40c. When did you first attend this school? FFUQ40CA **(month)** FFUQ40CB **(year)**

40d. Are you currently attending this school?

FFUQ40DA Yes 1
No (Date left: FFUQ40DB month FFUQ40DC year) 2

EDUCATION AND TRAINING PROGRESS AFTER HIGH SCHOOL

FFUQ41A **41a. Since leaving high school which of the following best describes how well you have done in all of your course-work or training through October 1973? If your school(s) or program(s) do not use letter grades, please choose the letter grade that comes closest to describing your progress.**

(Circle one.)

Mostly A 1
About half A and half B 2
Mostly B 3
About half B and half C 4
Mostly C 5
About half C and half D 6
Mostly D 7
Mostly below D 8

FFUQ41B **41b. Do any of these schools or programs give credits?** **(Circle one.)**

I don't know .... 1 } — *(SKIP to q. 42) Next page*
No .... 2 }
Yes 3

41c. Since leaving high school, about how many credits had you earned by October 1973? (Write in.)

FFUQ41CA Number of quarter hours
FFUQ41CB Number of semester hours
FFUQ41CC Number of other type of credits (please specify type: ____________________)

FUQ42 **42. Whether or not you were enrolled in school in the first week of October 1973, were you working at that time toward a certificate, degree, or license of any kind?**

(Circle one.)

No 1
Yes, a certificate (specify in what: ________) 2
Yes, a license (specify in what: ________) 3
Yes, a two-year or three-year vocational degree or diploma 4
Yes, a two-year academic degree 5
Yes, a four-year or five-year college Bachelor's degree 6
Yes, other (please specify: ________) 7

FFUQ43 **43. Since leaving high school, had you earned any certificate, license, diploma, or degree of any kind prior to October 1973?**

No 1
Yes (please specify ________) 2

FFUQ44A **44a. Between the time you left high school and October 1973, had you participated in a formal program of academic or career counseling, tutoring, or remedial courses other than those services that were provided to all students in your college, school or training area?**

(Circle one.)

Never heard of such a program .... 1 } — *(SKIP to q. 45)*
Have heard of such a program but have not participated .... 2 }
Yes 3

44b. What was the exact name, nature, and location of the program in which you participated?

Name of the program FFUQ44BA

Nature of your participation: **(Circle one number on each line.)**

		Applies to me	**Does not apply to me**
FFUQ44BB	Counseling	1	2
FFUQ44BC	Tutoring	1	2
FFUQ44BD	Remedial courses	1	2

Name of institution: (omitted)
City: (omitted) State (omitted)

45. With regard to your education and training since leaving high school, how satisfied as a whole are you with the following?

(Circle one number on each line.)

		Very satisfied	**Somewhat satisfied**	**Neutral or no opinion**	**Somewhat dissatisfied**	**Very dissatisfied**
FFUQ45A	The ability, knowledge, and personal qualities of most teachers	1	2	3	4	5
FFUQ45B	The social life	1	2	3	4	5
FFUQ45C	Development of my work skills	1	2	3	4	5
FFUQ45D	My intellectual growth	1	2	3	4	5
FFUQ45E	The amount of money I have to get along on	1	2	3	4	5

SCHOOL FINANCES

The purpose of this part is to learn how students pay for their training and education after leaving high school, s **that financial** aid programs can be changed to meet student needs better. The following questions apply to any **training** and education you received after leaving high school and before Fall 1973

46a. About how much did training or schooling cost during the first year after high school, regardless of who paid? Give the expenses and the number of months you were in school or training during this period.

Total expenses $ FFUQ46AA Spent over how many months? FFUQ46AB

46b.* How was this money spent?

$ FFUQ46BA Tuition and fees
$ FFUQ46BB Room and board
$ FFUQ46BC Books and supplies
$ FFUQ46BD Transportation
$ FFUQ46BE Other related school expenses (clothing, laundry, etc.)

Combinations Code	Amount
FFUQ46BF	FFUQ46BG

(See manual for coding rules)

47. In paying for these costs, how much came from each of the following sources? (Please circle all that apply and write in the amounts.)

SAVINGS OR EARNINGS		
Own savings or summer earnings	01	($)
College work-study programs	02	($)
Other earnings while taking courses	03	($)
INDIVIDUAL SUPPORT		
Parents	04	($)
Husband or wife	05	($)
Other relatives or friends	06	($)
SCHOLARSHIPS OR GRANTS		
Basic Educational Opportunity Grant Program	07	($)
Supplementary Educational Opportunity Grant Program	08	($)
College scholarship or grant from college funds	09	($)
ROTC scholarship or stipend	10	($)
Nursing Scholarship Program	11	($)
Health Professions Scholarship Program	12	($)
State scholarships	13	($)
Other scholarships	14	($)
LOANS		
Federal Guaranteed Student Loan Programs	15	($)
State Loan Program	16	($)
Regular bank loan	17	($)
National Defense (Direct) Student Loan Program	18	($)
Health Professions Student Loan Program	19	($)
Nursing Student Loan Program	20	($)
OTHER		
Law Enforcement Educational Program	21	($)
Veterans Administration War Orphans or Survivors Benefits Programs	22	($)
Veterans Administration direct benefits (GI Bill compensation or pension)	23	($)
Vocational Rehabilitation Program benefits	24	($)
Social Security Benefits (for students aged 18-22 who are children of retired, disabled, or deceased parents)	25	($)

Source Code	Amount
FFUQ47AA	FFUQ47AB
FFUQ47BA	FFUQ47BB
FFUQ47CA	FFUQ47CB
FFUQ47DA	FFUQ47DB
FFUQ47EA	FFUQ47EB
FFUQ47FA	FFUQ47FB
FFUQ47GA	FFUQ47GB

(See manual for coding rules)

Section C — Civilian Work Experience

In this section we would like to obtain information about the jobs you have held in October 1973 and October 1972, including full-time jobs, part-time jobs, apprenticeships, and on-the-job training (but do not include military service).

JOB HELD IN OCTOBER 1973

FFUQ48A **48a. Did you hold a job of any kind during the first week of October 1973?**

Yes .... 1 — *(SKIP to q. 49)* *Next page* →
No... 2

48b. What were the reasons you were not working during the first week of October 1973?

(Circle one number on each line.)

		Applies to me	**Does not apply to me**
FFUQ48BA	Did not want to work	1	2
FFUQ48BB	On temporary layoff from work or waiting to report to work	1	2
FFUQ48BC	Was full-time homemaker	1	2
FFUQ48BD	Going to school	1	2
FFUQ48BE	Not enough job openings available	1	2
FFUQ48BF	Union restrictions	1	2
FFUQ48BG	Would have required moving	1	2
FFUQ48BH	Required work experience I did not have	1	2
FFUQ48BI	Jobs available offered little opportunity for career development	1	2
FFUQ48BJ	Health problems or physical handicap	1	2
FFUQ48BK	Could not arrange child care	1	2
FFUQ48BL	Other family responsibilities (including pregnancy)	1	2
FFUQ48BM	Waiting to enter or in Armed Forces	1	2
FFUQ48BN	Not educationally qualified for types of work available	1	2

FFUQ48C **48c. Were you looking for work during September 1973?**

Yes .... 1 } — *(SKIP to q. 54a, page 17)* →
No... 2 }

49. Please describe below the job you held during the first week of October 1973. If you held more than one job at that time, describe the one at which you worked the most hours.

FFUQ49A

a. For **whom** did you work? (Name of company, business organization, or other employer)

(Write in): ____________________

b. What **kind of business** or industry was this? (For example, retail shoe store, restaurant, etc.)

(Write in): ____________________

c. What kind of **job or occupation** did you have in this business or industry? (For example, salesman, waitress, secretary, etc.)

(Write in): ____________________

d. What were your most frequent **activities or duties** on this job? (For example, selling shoes, waiting on tables, typing and filing, etc.)

(Write in): ____________________

FFUQ49E e. Were you:

(Circle one.)

An employee of a PRIVATE company, business, or individual working for wages, salary, or commissions? 1

A GOVERNMENT employee (Federal, State, county, or local)? 2

Self-employed in your OWN business, professional practice, or farm? 3

Working WITHOUT PAY in family business or farm? 4

f. When did you **start** working at this job? FFUQ49FA (month) FFUQ49FB (year)

FFUQ49G g. Are you **currently** working at this job?

Yes 1

No 2

50a. How many hours per WEEK did you usually work at this job up through the first week of October 1973?

FFUQ50A Hours per week

50b. Approximately how much did you usually earn per WEEK at this job at that time before deductions? (If not paid by the week, please estimate.)

$ FFUQ50B per week

51. How satisfied were you with the following aspects of this job?

(Circle one number on each line.)

		Very satisfied	**Satisfied**	**Dissatisfied**	**Very dissatisfied**
FFUQ51A	Pay and fringe benefits	1	2	3	4
FFUQ51B	Importance and challenge	1	2	3	4
FFUQ51C	Working conditions	1	2	3	4
FFUQ51D	Opportunity for promotion and advancement with this employer	1	2	3	4
FFUQ51E	Opportunity for promotion and advancement in this line of work	1	2	3	4
FFUQ51F	Security and permanence	1	2	3	4
FFUQ51G	Opportunity for developing new skills	1	2	3	4
FFUQ51H	Job as a whole	1	2	3	4

UQ52A **52a. Do you expect to be working for this same employer in October 1974?**

Yes 1
No 2

FFUQ52B **52b. Do you expect to be working at this same kind of job or occupation in October 1974?**

Yes 1
No 2

FFUQ53 **53. Were you working at any other job during the first week of October 1973 at the same time as the job you described above?**

Yes 1
No 2

JOB HELD IN OCTOBER 1972

FFUQ54A **54a. Now please think back to about a year ago. Did you hold a job of any kind during the month of October 1972?**

(Circle one.)

Yes, same job as in October 1973 .... 1 — *(SKIP to q. 56a)* } *Next page* →
Yes, but different job than in October 1973 .... 2 — *(SKIP to q. 55)*
No 3

54b. What were the reasons you were not working during the month of October 1972?

(Circle one number on each line.)

		Applies to me	**Does not apply to me**
FFUQ54BA	Did not want to work	1	2
FFUQ54BB	On temporary layoff from work or waiting to report to work	1	2
FFUQ54BC	Was full-time homemaker	1	2
FFUQ54BD	Going to school	1	2
FFUQ54BE	Not enough job openings available	1	2
FFUQ54BF	Union restrictions	1	2
FFUQ54BG	Would have required moving	1	2
FFUQ54BH	Required work experience I did not have	1	2
FFUQ54BI	Jobs available offered little opportunity for career development	1	2
FFUQ54BJ	Health problems or physical handicap	1	2
FFUQ54BK	Could not arrange child care	1	2
FFUQ54BL	Other family responsibilities (including pregnancy)	1	2
FFUQ54BM	Waiting to enter or in Armed Forces	1	2
FFUQ54BN	Not educationally qualified for types of work available	1	2

FFUQ54C **54c. Did you look for work during October 1972?**

Yes .... 1 } — *(SKIP to q. 58) Next page* →
No 2

55. Please describe below the job you held in October 1972. If you held more than one job at that time, describe the one at which you worked the most hours.

FFUQ55A

a. For **whom** did you work? (Name of company, business organization, or other employer)
(Write in): ____________________

b. What **kind of business** or industry was this? (For example, retail shoe store, restaurant, etc.)
(Write in): ____________________

c. What kind of **job or occupation** did you have in this business or industry? (For example, salesman, waitress, secretary, etc.)
(Write in): ____________________

d. What were your most frequent **activities or duties** on this job? (For example, selling shoes, waiting on tables, typing and filing, etc.)
(Write in): ____________________

FFUQ55E e. Were you:

	(Circle one.)
An employee of a PRIVATE company, business, or individual working for wages, salary, or commissions?	1
A GOVERNMENT employee (Federal, State, county, or local)?	2
Self-employed in your OWN business, professional practice, or farm?	3
Working WITHOUT PAY in family business or farm?	4

f. When did you **start** working at this job? FFUQ55FA (month) FFUQ55FB (year)

g. Are you **currently** working at this job?

FFUQ55GA Yes 1

No (Left job: FFUQ55GB month FFUQ55BC year) 2

56a. How many hours per WEEK did you usually work at this job in October 1972?

FFUQ56A Hours per week

56b. Approximately how much did you usually earn per WEEK at this job back then before deductions? (If not paid by the week, please estimate.)

$ FFUQ56B per week

FFUQ57 **57. Were you working at any other job during the month of October 1972 at the same time as the job you described above?**

Yes 1

No 2

GENERAL

58. Each part of this question refers to the entire 52-week period from October 1972 to October 1973.

a. About how many different weeks did you work altogether during this period? (Count all weeks in which you did any work at all or were on paid vacation.) FFUQ58A Number of weeks

b. How many weeks during this period did you spend looking for work or on layoff from a job or waiting to report to a job? FFUQ58B Number of weeks

c. How many different employers did you work for altogether during this period? (Count each employer only once, even if you had different jobs for the same employer.) FFUQ58C Number of employers

59. Since leaving high school, what methods did you use at any time in looking for work, and were they useful?

(Circle one number on each line.)

		Never looked or used	Used but did NOT obtain job	Used and obtained job
FFUQ59A	High school employment service	1	2	3
FFUQ59B	Other school or college placement service	1	2	3
FFUQ59C	Professional periodicals or organizations	1	2	3
FFUQ59D	Civil Service applications	1	2	3
FFUQ59E	Public employment service	1	2	3
FFUQ59F	Private employment agency	1	2	3
FFUQ59G	Community action or welfare groups	1	2	3
FFUQ59H	Newspaper advertisement	1	2	3
FFUQ59I	Direct application to employers	1	2	3
FFUQ59J	Registration with a union	1	2	3
FFUQ59K	Friends or relatives	1	2	3
FFUQ59L	Other (specify: ______________________)	1	2	3

60. While you were in high school, did you receive any specialized training intended to prepare you for immediate employment upon leaving school? (For example, auto mechanics, secretarial skills, or nurses aid.)

FFUQ60A
No .... 1 — *(SKIP to Section D) Next page*
Yes (In what area did you receive this training? FFUQ60B) 2

FFUQ61 **61. Since leaving high school, have you worked in a job where you expected to use this training?**

(Circle one.)

No, never looked for work where I could use it .... 1 — *(SKIP to Section D) Next page*
No, but looked for work where I could use it .... 2 — *(SKIP to q. 63)*
Yes 3

62. Which of the following apply to your experience while working in this area? (Circle one number on each line.)

		Applies to me	Does not apply to me
FFUQ62A	I have been able to apply almost everything I learned in my high school training	1	2
FFUQ62B	I have been able to apply the basic principles of my training, although some things are different	1	2
FFUQ62C	I would have liked more experience in my training before I started working	1	2
FFUQ62D	I received training different from the way it is done on the job	1	2
FFUQ62E	I found my high school training useful in on-the-job training program(s)	1	2
FFUQ62F	I was trained with tools or equipment that are not used on my job	1	2
FFUQ62G	I could have gotten my job without the training	1	2
FFUQ62H	I took coursework associated with my training which was not helpful in performing my job	1	2
FUQ62I	I would have liked more information about what was expected in the job beyond skills training	1	2
FFUQ62J	I would have liked other types of experience or information to be included in the training (describe: ______________________)	1	2
FFUQ62K	I consider myself doing as well as others with similar training	1	2
FFUQ62L	I consider the training a wise choice	1	2

63. Which of the following apply to your experiences when trying to find work in your area of high school training? (Circle one number on each line.)

		Applies to me	Does not apply to me
FUQ63A	I did not find many job openings in that type of work	1	2
FUQ63B	I was told I was not qualified	1	2
FUQ63C	I did not know how to use the equipment or tools of the job	1	2
FUQ63D	I was not offered enough pay	1	2
UQ63E	I did not have enough experience	1	2
FUQ63F	I decided to enter a different line of work	1	2
FUQ63G	I did not have the coursework or knowledge required of the job	1	2
FUQ63H	I was offered a job related to my training but did not take it	1	2

Section D — Military Service

FFUQ64 **64. Since leaving high school, have you served in the Armed Forces, in a Reserve or National Guard Unit, or have you been enrolled in one of the service academies (for example, West Point)?**

(Circle one.)

No .... 1 }
Yes, National Guard or Reserves but not active duty .... 2 } —*(SKIP to Section E, page 22)*
Yes, active duty or service academy 3

65. Which branch of the Armed Forces did you enter? (Write in): FFUQ65

66. Did you enlist or were you drafted?

(Circle one.)

FFUQ66A I entered a service academy .... 1 *(SKIP to q. 72) Next page*
I enlisted .... 2 When? FFUQ66B **(month)** FFUQ66C **(year)**
I was drafted .... 3 When? FFUQ66D **(month)** FFUQ66E **(year)**

67. When did you begin active duty? FFUQ67A (month) FFUQ67B (year)

FFUQ68 **68. Have you received (or are you receiving) four or more weeks of specialized schooling while in the Armed Forces?**

No .... 1 — *(SKIP to q. 70)*
Yes 2

FFUQ69A **69a. In which of the following fields have you received specialized schooling?**

(Circle one.)

Business (e.g., administration, management, clerical work, communications, personnel work, etc.) 1
Computer Technology (e.g., computer programming, computer operations, etc.) 2
Health Professions (e.g., medical technology, occupational therapy, X-ray technology, pharmacy, etc.) 3
Mechanical and Engineering Technology (e.g., aircraft mechanics, automotive mechanics, construction, printing, drafting, machinist, electronics, etc.) 4
Services (e.g., food service, security work, aircraft control, etc.) 5
Other (please specify: ________) 6

69b. What is the name of the specialized schooling program in which you spent the longest period of time? Specify your military specialty code, or MOS. (Please print and do not abbreviate.)

Name of program: FFUQ69B **MOS:** FFUQ69C

70. What is the highest pay grade and specialty rating you have held?

Pay grade: FFUQ70A **Specialty rating:** FFUQ70B

71. Have you taken any courses while in the Armed Forces that:

(Circle one number on each line.)

		Yes	**No**
FFUQ71A	Prepared you for the high school equivalency test?	1	2
FFUQ71B	Prepared you for equivalency tests that can be taken for college credit?	1	2
FFUQ71C	Were college-sponsored courses which gave college credits?	1	2

FFUQ72 **72. Do you plan to use the GI Bill to further your education?**

(Circle one.)

Yes	1
No	2
Undecided	3

73. How satisfied are (were) you with the following aspects of your work in the Armed Forces?

(Circle one number on each line.)

		Very satisfied	**Satisfied**	**Dissatisfied**	**Very dissatisfied**
FFUQ73A	Pay and fringe benefits	1	2	3	4
FFUQ73B	Importance and interest of work	1	2	3	4
FFUQ73C	Working conditions	1	2	3	4
FFUQ73D	Opportunity for promotion and advancement in the Armed Forces	1	2	3	4
FFUQ73E	Opportunity for promotion and advancement in my specialty	1	2	3	4
FFUQ73F	Security and permanence	1	2	3	4
FFUQ73G	Opportunity for developing new skills	1	2	3	4
:Q73H	Work as a whole	1	2	3	4

74. Are you currently on active duty?

FFUQ74A No (Date left: FFUQ74B month FFUQ74C year) ..... 1 —— *(SKIP to Section E) Next page* →

Yes 2

FFUQ75 **75. How long do you expect to be on active duty in the Armed Forces?**

(Circle one.)

For a two-year tour of duty only	1
For a three- or four-year tour of duty	2
For more than one enlistment, but less than a full career	3
For a full career (20 years minimum)	4
Have not decided	5

76. What do you plan to do when you get out of the Armed Forces?

(Circle one number on each line.)

		Applies to me	**Does not apply to me**
FUQ76A	Full- or part-time work	1	2
FUQ76B	College, either full-time or part-time	1	2
FUQ76C	Technical, vocational, or business or career training school, either full-time or part-time	1	2
FUQ76D	Registered apprenticeship or on-the-job training program	1	2
FUQ76E	Retire	1	2
FUQ76F	Undecided	1	2
UQ76G	Other (please specify: ______________________)	1	2

Section E — Information About The Past

77. Have your (a) parents or guardians or have your (b) friends your own age either encouraged or discouraged you in doing the following things since you left high school?

(a) PARENTS OR GUARDIANS (Circle one number on each line.) — **(b) FRIENDS YOUR OWN AGE** (Circle one number on each line.)

(a) Encouraged	(a) Discouraged	(a) Both	(a) Neither		(b) Encouraged	(b) Discouraged	(b) Both	(b) Neither
	FFUQ77AA					FFUQ77BA		
1	2	3	4	Getting a job or going to work	1	2	3	4
	FFUQ77AB					FFUQ77BB		
1	2	3	4	Going to school for vocational or technical training	1	2	3	4
	FFUQ77AC					FFUQ77BC		
1	2	3	4	Going to college for an academic education	1	2	3	4
	FFUQ77AD					FFUQ77BD		
1	2	3	4	Getting married	1	2	3	4
	FFUQ77AE					FFUQ77BE		
1	2	3	4	Entering the Armed Forces	1	2	3	4
	FFUQ77AF					FFUQ77BF		
1	2	3	4	Traveling or taking a break	1	2	3	4

78. What is the highest educational level completed by your mother and father? If you are not sure, please give your best guess.

(Circle one number on each line.)

			High School		Vocational, trade, business, or career program in a school or college		Academic programs			
		None or grade school only	Did not finish	Finished	Less than two years	Two years or more	Some college (including two-year degree)	Finished college (four-or five-year degree)	Master's degree or equivalent	Ph. D., M.D., or equivalent
FFUQ78A	**Father** or male guardian	1	2	3	4	5	6	7	8	9
FFUQ78B	**Mother** or female guardian	1	2	3	4	5	6	7	8	9

79. Please describe below the job most recently held by your father (or male guardian), even if he is retired, deceased, or disabled.

FFUQ79

a. For **whom** does (or did) he work? (Name of company, business, organization, or other employer)
(Write in): ____________________

b. What **kind of business** or industry is (or was) this? (For example, retail store, manufacturer, state or city government, farming, etc.)
(Write in): ____________________

c. What kind of **job or occupation** does (or did) he have in this business or industry? (For example, salesman, foreman, policeman, civil engineer, farmer, teacher)
(Write in): ____________________

d. What are (or were) his most frequent **activities or duties** on this job? (For example, selling cars, keeping accounts, supervising others, operating machinery, finishing concrete, teaching grade school)
(Write in): ____________________

80. Did your mother (or female guardian) usually work during the following periods of your life?

(Circle one number on each line.)

		Did not work	Worked part-time	Worked full-time	Does not apply
FFUQ80A	When you were in high school	1	2	3	4
FFUQ80B	When you were in elementary school	1	2	3	4
FFUQ80C	Before you went to elementary school	1	2	3	4

FFUQ81 **81. Did you formally apply for admission (fill out a form and send it in) to any college or other school at any time before October 1973?**

No	1 — *(SKIP to q. 85) Next page* →
Yes	2

82a. When you first applied, what was the name and address of the FIRST school or college of your choice?

Name: (omitted)

Address: (omitted)
(city) (state)

FFUQ82B **82b. Were you accepted for admission at this school?**

(Circle one.)

Yes, and attended	1
Yes, but this school did not have enough room	2
Yes, but did not attend for other reasons	3
No, was not accepted	4

UQ82C **82c. Did you apply for financial aid at this school?**

(Circle one.)

No	1 } — *(SKIP to q. 83a)*
Yes, but was offered no financial aid	2 }
Yes, and was offered financial aid	3

82d. What were the approximate values of the financial aid that you were offered for the first academic year? (If none, enter "none")

Scholarship: $ FFUQ82DA Loan: $FFUQ82DB Promised job: $FFUQ82DC

83a. At that time, what was the name and address of your SECOND CHOICE school or college?

FFUQ83AA I applied to only one school .... 1 — *(SKIP to q. 85) Next page* →

Name: (omitted)

Address: (omitted)
(city) (state)

FFUQ83B **83b. Were you accepted for admission at this school?**

(Circle one.)

Yes, and attended	1
Yes, but this school did not have enough room	2
Yes, but did not attend for other reasons	3
No, was not accepted	4

FFUQ83C **83c. Did you apply for financial aid at this school?**

(Circle one.)

No .... 1 } —(SKIP to q. 84a)
Yes, but was offered no financial aid .... 2 }
Yes, and was offered financial aid 3

83d. What were the approximate values of the financial aid that you were offered for the first academic year? (If none, enter "none")

Scholarship: $ FFUQ83DA Loan: $ FFUQ83DB Promised job: $ FFUQ83DC

84a. At that time, what was the name and address of your THIRD CHOICE school or college?

FFUQ84AA I applied to only two schools .... 1 — (SKIP to q. 85)
Name: (omitted)
Address: (omitted)
(city) (state)

FFUQ84B **84b. Were you accepted for admission at this school?**

(Circle one.)

Yes, and attended 1
Yes, but this school did not have enough room 2
Yes, but did not attend for other reasons 3
No, was not accepted 4

FFUQ84C **84c. Did you apply for financial aid at this school?**

(Circle one.)

No .... 1 } —(SKIP to q. 85)
Yes, but was offered no financial aid .... 2 }
Yes, and was offered financial aid 3

84d. What were the approximate values of the financial aid that you were offered for the first academic year? (If none, enter "none")

Scholarship: $ FFUQ84DA Loan: $ FFUQ84DB Promised job: $ FFUQ84DC

85. How helpful were your high school's counseling services in each of the following areas?

(Circle one number on each line.)

		Services NOT available	**Services available but NOT consulted**	**SERVICES CONSULTED AND... Very helpful**	**Helpful**	**NOT helpful**
FFUQ85A	Learning how my interests and abilities fit with different jobs or occupations	1	2	3	4	5
FFUQ85B	Finding out where to train for the job or occupation I wanted	1	2	3	4	5
FFUQ85C	Placing me in a job or helping me to find employment	1	2	3	4	5
FFUQ85D	Finding out the schools or colleges I qualified for which suited my abilities and interests	1	2	3	4	5
FFUQ85E	Finding out about costs at different schools or colleges and how to obtain financial aid	1	2	3	4	5
FFUQ85F	Obtaining financial aid to go to school or college	1	2	3	4	5
FFUQ85G	Recommending fields of work likely to have expanding employment opportunities	1	2	3	4	5

BSYRQ2 86. **Which of the following best describes your high school program?**

(Circle one.)

General	1
Academic or college preparatory	2
Vocational or technical:	
Agricultural occupations	3
Business or office occupations	4
Distributive education	5
Health occupations	6
Home economics occupations	7
Trade or industrial occupations	8

BSYRQ5 87. **Which of the following best describes how well you did in all of your course work while in high school?**

(Circle one.)

Mostly A (a numerical average of 90-100)	1
About half A and half B (85-89)	2
Mostly B (80-84)	3
About half B and half C (75-79)	4
Mostly C (70-74)	5
About half C and half D (65-69)	6
Mostly D (60-64)	7
Mostly below D (below 60)	8

BSYRQ8 88. **When you were a senior in high school, how many hours per week on the average did you work in a paid or unpaid job? Do NOT include work while in a vacation period.**

(Circle one.)

None	0
Less than 6 hours	1
6 to 10 hours	2
11 to 15 hours	3
16 to 20 hours	4
21 to 25 hours	5
26 to 30 hours	6
More than 30 hours	7

89. **When you were a senior in high school, did you participate in any of the following types of activities, either in or out of school?**

(Circle one number on each line.)

		Did NOT participate	Participated actively	Participated as a leader or officer
BSYRQ10A	Athletic teams, intramurals, letterman's club, sports club	1	2	3
BSYRQ10B	Cheerleaders, pep club, majorettes	1	2	3
BSYRQ10C	Debating, drama, band, chorus	1	2	3
BSYRQ10D	Hobby clubs such as photography, model building, hot rod, electronics, crafts	1	2	3
BSYRQ10E	Honorary clubs such as Beta Club or National Honor Society	1	2	3
BSYRQ10F	School newspaper, magazine, yearbook, annual	1	2	3
BSYRQ10G	School subject matter clubs such as science, history, language, business, art	1	2	3
BSYRQ10H	Student council, student government, political club	1	2	3
BSYRQ10I	Vocational education clubs such as Future Homemakers, Future Teachers, Future Farmers of America, DECA, OEA, FBLA, or VICA	1	2	3

BSYRQ27 **90. When did you first decide whether or not you would go to college?**

(Circle one.)

I decided before the 10th grade	1
I decided in the 10th grade	2
I decided in the 11th grade	3
I decided in the 12th grade (senior year)	4
I decided after leaving high school	5
I'm still undecided	6

BSYRQ16 **91. When you were still a senior in high school, what did most of your close friends plan to do after finishing high school?**

(Circle one.)

Enter the military service	1
Go to vocational, technical, business, or trade schools	2
Become full-time homemakers	3
Go to college	4
Enter apprenticeships or on-the-job training programs	5
Go to work full-time	6
I don't know	7
Other	8

92. As far as you remember, when you were a senior in high school, how much schooling did your father or mother (or guardian) want you to get?

(Circle one number on each line.)

	Don't know, or Does not apply	High School		Vocational, trade, business, or career program in a school or college		Academic programs			
		NOT finish	Finish	Less than two years	Two years or more	Some college (including two-year degree)	Finish college (four-or five-year degree)	Master's degree or equivalent	Ph. D., M.D., or equivalent
BSYRQ91A **Father** or male guardian	1	2	3	4	5	6	7	8	9
BSYRQ91B **Mother** or female guardian	1	2	3	4	5	6	7	8	9

BSYRQ93 **93. What is the approximate income before taxes of your parents (or guardian)? Include taxable and nontaxable income from all sources.**

(Circle one.)

Less than $3,000 a year (about $60 a week or less)	01
Between $3,000 and $5,999 a year (from $60 to $119 a week)	02
Between $6,000 and $7,499 a year (from $120 to $149 a week)	03
Between $7,500 and $8,999 a year (from $150 to $179 a week)	04
Between $9,000 and $10,499 a year (from $180 to $209 a week)	05
Between $10,500 and $11,999 a year (from $210 to $239 a week)	06
Between $12,000 and $13,499 a year (from $240 to $269 a week)	07
Between $13,500 and $14,999 a year (from $270 to $299 a week)	08
Between $15,000 and $18,000 a year (from $300 to $359 a week)	09
Over $18,000 a year (about $360 a week or more)	10

94. Do your parents have the following in their home?

(Circle one number on each line.)

		Yes	No
BSYRQ94A	A specific place for study	1	2
BSYRQ94B	Daily newspaper	1	2
BSYRQ94C	Dictionary	1	2
BSYRQ94D	Encyclopedia or other reference books	1	2
BSYRQ94E	Magazines	1	2
BSYRQ94F	Record player	1	2
BSYRQ94G	Tape recorder or cassette player	1	2
BSYRQ94H	Color television	1	2
BSYRQ94I	Typewriter	1	2
BSYRQ94J	Electric dishwasher	1	2
BSYRQ94K	Two or more cars or trucks that run	1	2

BSYRQ84 **95. How do you describe yourself?**

(Circle one.)

American Indian	1
Black or Afro-American or Negro	2
Mexican-American or Chicano	3
Puerto Rican	4
Other Latin-American origin	5
Oriental or Asian-American	6
White or Caucasian	7
Other	8

BSYRQ88 **96. Is English the language spoken most often in your parents' home?**

Yes	1
No	2

YRQ92 **97. What religion were you brought up in?**

(Circle one.)

Protestant	1
Roman Catholic	2
Other Christian	3
Jewish	4
None	5
Other (please specify ______________________________)	6

BSYRQ95 **98. When you were a senior in high school which of the following best described the location of the place in which you lived?**

(Circle one.)

In a rural or farming community	1
In a small city or town of fewer than 50,000 people that is not a suburb of a larger place	2
In a medium-sized city (50,000-100,000 people)	3
In a suburb of a medium-sized city	4
In a large city (100,000-500,000 people)	5
In suburb of a large city	6
In a very large city (over 500,000 people)	7
In a suburb of a very large city	8

BSYRQ83 **99. During your senior year in high school did you have a physical condition that limited the kind and amount of work you could do on a job?**

Yes	1
No	2

The OPERATION FOLLOW-UP staff would like to get in touch with you again next year to find out how your plans have worked out. To help us do so, we would appreciate your filling in the information on the next page. This information will be kept in strict confidence and will only be used for future survey purposes. ➡

This entire section was omitted.

Section F — Background Information

Please PRINT the name, address, and telephone number where you can most usually be reached during the coming year.

Name:		
Address (number, street, city, state and ZIP code)	Telephone	
	Area Code	Number

Please PRINT the name, address and telephone number of your parents.

Name:		
Address (number, street, city, state and ZIP code)	Telephone	
	Area Code	Number

Please PRINT the names and addresses of two other people who will know where to get in touch with you during the coming year. (List no more than one person who now lives with you.)

Name:		
Address (number, street, city, state and ZIP code)	Telephone	
	Area Code	Number

Name:		
Address (number, street, city, state and ZIP code)	Telephone	
	Area Code	Number

Please give the following information about yourself.

(a) Date of birth ______________ (month) ______________ (day) ______________ (year)

(b) Sex: (Circle one.) Male............1
Female.........2

(c) Social Security No. ______________________

(d) Driver's License No. ______________________ State ______________

(e) When did you complete this questionnaire? ____________ (month) ____________ (day) ____________ (year)

THANK YOU FOR YOUR COOPERATION

THIS INFORMATION WILL BE KEPT IN STRICT CONFIDENCE AND WILL BE USED ONLY FOR FUTURE FOLLOW-UPS IN THE NATIONAL LONGITUDINAL STUDY OF THE HIGH SCHOOL CLASS OF 1972